DVD-Video Player

DVP320 DVP323

DVP320B/17 DVP320F/17
DVP320/93/78/75/69/00/AK/BK
DVP323/05

Service
Service
Service

Service Manual

CLASS 1
LASER PRODUCT

DVD VIDEO

COMPACT disc DIGITAL VIDEO

COMPACT disc DIGITAL AUDIO

Contents **Page**

1	Technical Specs and Connection Facilities	2	
2	Safety Instructions, Warnings, Notes, and Service Hints	3	
3	Directions for User	7	
4	Dismantling Instructions and exploded view	21	
5	Diagnostic Software, Trouble shooting and Test Instructions	23	
6	*Wiring, Block Diagrams*		
	Block Diagram	29	
	Wiring Diagram	30	
7	*Electrical Diagrams and Print-Layouts*	*Diagram*	*PWB*
	Power Supply unit (MITSUMI)	31	32
	Power Supply unit (EPM)	33	34
	MPEG Board: INDEX	35	41-42
	MPEG Board: RF Part	36	41-42
	MPEG Board: SERVO and MPEG	37	41-42
	MPEG Board: MEMORY	38	41-42
	MPEG Board: AUDIO and VIDEO	39	41-42
	Front Board	43	44
8	Alignments (Not Applicable)	45	
9	Circuit Descriptions (Not Applicable)	45	
10	Spare Parts List	49	
11	Revision List	57	

©Copyright 2002 Philips consumer Electronics B.V. Eindhoven, The Netherlands,
All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, or otherwise without the prior permission of Philips.

Published by Liu BZH 0371 Service BPAVC Printed in the Netherlands Subject to modification EN 3141 785 13763

Version 1.3

PHILIPS

1 Technical Specifications

DVP320/ 93/69/78/75/00 DVP320B(F)/ 17

Specifications

DVD-Video Player

Technical specifications DVD320/93/78/69/75/00, DVP320B(F)/17

PLAYBACK SYSTEM

DVD Video
Video CD & SVCD
CD
PICTURE CD
MP3-CD
CD-R, CD-RW
DVD+R, DVD+RW

VIDEO PERFORMANCE

CVBS	1Vpp --- 75
Component video	Y: 1.00Vpp --- 75 Pr : 0.7Vpp --- 75 Pb: 0.7Vpp --- 75

Progressive scan output except /69, /75

AUDIO FORMAT

Digital	Mpeg/ AC-3/ DTS	compressed Digital
	PCM	16, 20, 24 bits fs, 44.1, 48, 96 kHz
	MP3(ISO 9660)	24, 32, 56, 64, 96, 128, 256 kbps & variable bit rate fs, 16, 22.05, 24, 32, 44.1, 48 kHz
Analog	Sound Stereo	

Specifications subject to change without prior notice

AUDIO PERFORMANCE

DA Converter		24bit
Signal-Noise (1KHz)		100dB
Dynamic range(1KHz)		>90dB
DVD	fs 96 kHz	4Hz- 44kHz
	fs 48 kHz	4Hz- 22kHz
SVCD	fs 48 kHz	4Hz- 22kHz
	fs 44.1kHz	4Hz- 20kHz
CD/VCD	fs 44.1kHz	4Hz- 20kHz

TV STANDARD (PAL/50Hz) (NTSC/60Hz)

Number of lines	625	525
Playback	Multistandard	(PAL/NTSC)

CONNECTIONS

Component Video Output	Cinch
CVBS Video Output	Cinch
Audio Output(L+R)	Cinch
Digital Output	1 coaxial IEC958 for CDDA / LPCM IEC1937 for MPEG1, MPEG 2, Dolby Digital and DTS

CABINET

Dimensions (w x d x h)	216 x 216 x 45 mm
Weight	Approximately 0.8 Kg

POWER CONSUMPTION

Power consumption	<8W
Power consumption in Standby mode	<1.2W

2. Safety Instructions, Warnings, Notes, and Service Hints

2.1 Safety Instructions

2.1.1 General Safety

Safety regulations require that during a repair:

Connect the unit to the mains via an isolation transformer.

Replace safety components, indicated by the symbol ⚠ , only by components identical to the original ones. Any other component substitution (other than original type) may increase risk of fire or electrical shock hazard.

Safety regulations require that after a repair, you must return the unit in its original condition. Pay, in particular, attention to the following points:

Route the wires/cables correctly, and fix them with the mounted cable clamps.

Check the insulation of the mains lead for external damage.

Check the electrical DC resistance between the mains plug and the secondary side:

1. Unplug the mains cord, and connect a wire between the two pins of the mains plug.
2. Set the mains switch to the 'on' position (keep the mains cord unplugged!).
3. Measure the resistance value between the mains plug and the front panel, controls, and chassis bottom.
4. Repair or correct unit when the resistance measurement is less than 1 Mohm.
5. Verify this, before you return the unit to the customer/ user (ref. UL-standard no. 1492).
6. Switch the unit 'off', and remove the wire between the two pins of the mains plug.

2.1.2 Laser Safety

This unit employs a laser. Only qualified service personnel may remove the cover, or attempt to service this device (due to possible eye injury).

Laser Device Unit

Type	:	Semiconductor laser GaAlAs
Wavelength	:	650 nm (DVD)
	:	780 nm (VCD/CD)
Output Power	:	20 mW (DVD+RW writing)
	:	0.8 mW (DVD reading)
	:	0.3mW (VCD/CD reading)
Beam divergence	:	60 degree

Figure 2-1

Note: Use of controls or adjustments or performance of procedure other than those specified herein, may result in hazardous radiation exposure. Avoid direct exposure to beam.

2.2 Warnings

2.2.1 General

All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD, ⚠). Careless handling during repair can reduce life drastically. Make sure that, during repair, you are at the same potential as the mass of the set by a wristband with resistance. Keep components and tools at this same potential.

Available ESD protection equipment:

– Complete kit ESD3 (small tablemat, wristband, connection box, extension cable and earth cable) 4822 310 10671.
– Wristband tester 4822 344 13999.

Be careful during measurements in the live voltage section. The primary side of the power supply (pos. 1005), including the heatsink, carries live mains voltage when you connect the player to the mains (even when the player is 'off'!). It is possible to touch copper tracks and/or components in this unshielded primary area, when you service the player. Service personnel must take precautions to prevent touching this area or components in this area. A 'lightning stroke' and a stripe-marked printing on the printed wiring board, indicate the primary side of the power supply. Never replace modules, or components, while the unit is 'on'.

2.2.2 Laser

The use of optical instruments with this product, will increase eye hazard.

Only qualified service personnel may remove the cover or attempt to service this device, due to possible eye injury.

Repair handling should take place as much as possible with a disc loaded inside the player.

Text below is placed inside the unit, on the laser cover shield:

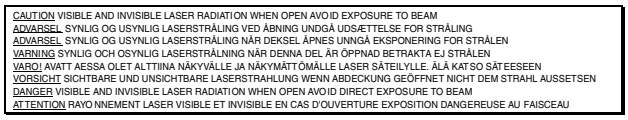

CAUTION VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN AVOID EXPOSURE TO BEAM
ADVARSEL SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING UNDGÅ UDSÆTTELSE FOR STRÅLING
ADVARSEL SYNLIG OG USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES UNNGÅ EKSPONERING FOR STRÅLEN
VARNING SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD BETRAKTA EJ STRÅLEN
VARO! AVATT AESSA OLET ALTTIINA NÄKYVÄLLE JA NÄKYMÄTTÖMÄLLE LASER SÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN
VORSICHT SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG WENN ABDECKUNG GEÖFFNET NICHT DEM STRAHL AUSSETSEN
DANGER VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN AVOID DIRECT EXPOSURE TO BEAM
ATTENTION RAYONNEMENT LASER VISIBLE ET INVISIBLE EN CAS D'OUVERTURE EXPOSITION DANGEREUSE AU FAISCEAU

Figure 2-2

2.2.3 Notes

Dolby

Manufactered under licence from Dolby Laboratories. "Dolby", "Pro Logic" and the double-D symbol are trademarks of Dolby Laboratories. Confidential Unpublished Works.
©1992-1997 Dolby Laboratories, Inc. All rights reserved.

Figure 2-3

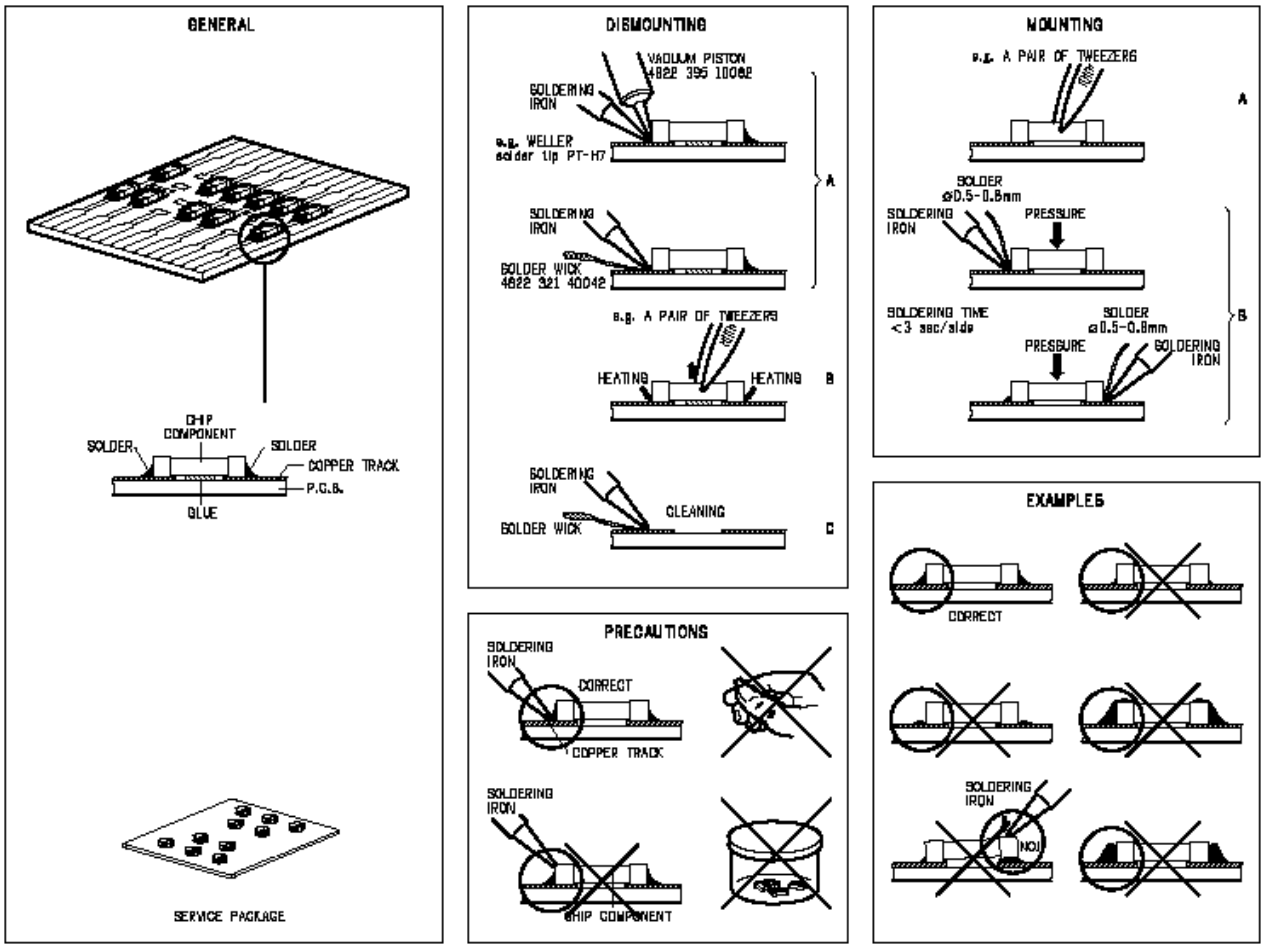
Trusurround

TRUSURROUND, **SRS** and symbol (fig 2-4) are trademarks of SRS Labs, Inc. TRUSURROUND technology is manufactured under licence frm SRS labs, Inc.

Figure 2-4

2.3 Service hints

2.3.1. Handling chip components



2.3.2. Repair tips

2.3.2.1. Switched mode power supply

The power supply unit has to be replaced in case of failure. The schematic diagram provided in the service manual is only for information and no service parts will be available.

2.3.2.2. DVD Loader

The DVD Loader is a non-repairable unit and in case of failure, it has to be replaced with a complete DVD Loader.
Because DVD Loaders are very sensitive to ESD. During replace, must obey the following rules.

Preparations
1. Must wear ESD Wrist Belt
2. All the repair tools (equipments) must connect with ground
3. Ensure the Servo (MPEG) board connect with ground

Demounting
1. Remove the 4 screws item 214 (refer to explode view)
2. Solder the ESD protect point on the defect loader before unplug the cables between Loader and Mpeg board. The position of the ESD protect point shows in the photo 1
3. Pack the defect loader for analyse if necessary.

Mounting

1. Ensure the cables between a new Loader KHM-280AHA and Mpeg board connect well.
2. Unsolder the ESD protect point on the new Loader KHM-280AHA use a soldering iron with ESD protect carefully.
3. Mantling the Loader.

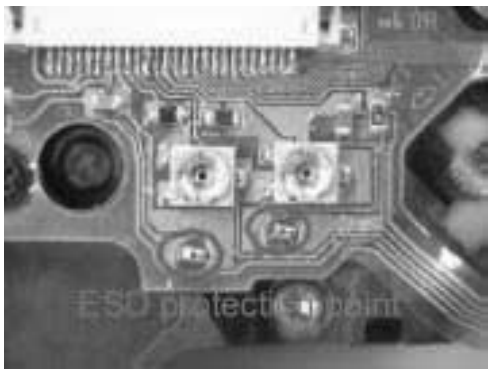


Photo 1: Position of ESD protect-point (Bottom view)

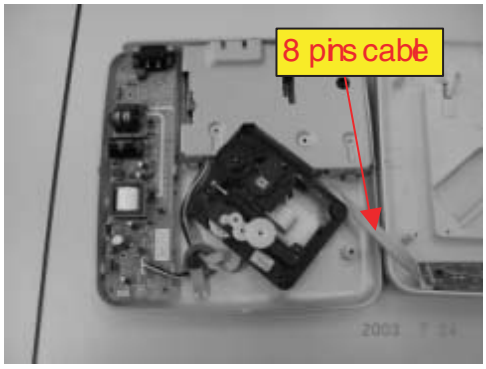


Photo 2: 8Pins cable is easily hurt

2.3.2.3. Mpeg board and Front Display

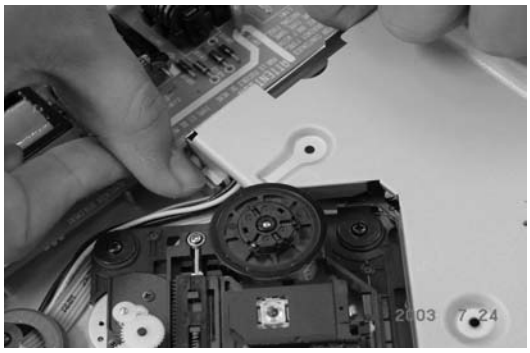
Generally the Mpeg board and front display are non-repairable units and in case of failure, they have to be replaced with a completely too. However if necessary they can be repaired down to simple component level. These simple components include power circuit, quartz circuit, servo driver, Flash, switches, LEDs, cables etc.

2.3.2.4. Important Notes

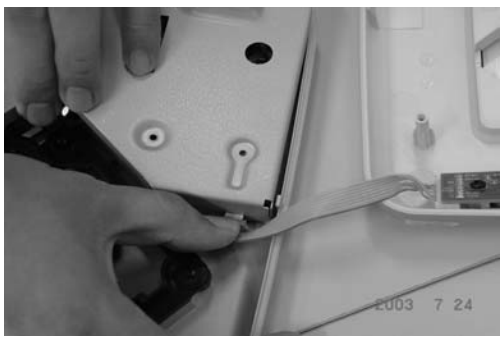
1. Be aware that Item 8002 (8 pins cable 314101021911) is easily hurt by a screw during assembling the cabinets. Refer to wiring diagram and the above photo 2.
2. The procedures to remove the top mpeg shield.

Step1: unlock the two locks in the side near PSU

Step 2: Remove the locking tap



Step 3: Remove the locking tap near left side



Step 4: Remove the top shield

2.3.3. Change of Software setting

The software setting can be change according to the following procedure:

1. Press < OPEN/CLOSE> switch lock on the door to open the door.
2. Enter the 4-digit code <9> <9> <9> <9> on the remote control.
3. Enter one of the keys below to change the software setting.

REGION CODE	USA	➔ 1
	EUROPE	➔ 2
	AP	➔ 3
	LATAM	➔ 4
	INDIA / RUSSIA	➔ 5
	CHINA	➔ 6 (or 0)

<SUBTITLE><0>	Set to setup configuration of DVP320B/17 and DVP320F/17
<SUBTITLE><1>	Reserved
<SUBTITLE><2>	Set to setup configuration of DVP320/93
<SUBTITLE><3>	Set to setup configuration of DVP320/69
<SUBTITLE><4>	Set to setup configuration of DVP320/75
<SUBTITLE><5>	Set to setup configuration of DVP320/78

4. The change should effect immediately with information indicated on TV screen.

   Note: When changing the set-up configuration, the change will take immediate effect with the information indicated on the TV screen for a short period.

2.3.4. Software upgrade via Download disc

Both the application and servo software are delivered in one SW stack and it can be flashed into the DVD player by means of a CD-ROM disc. The CD-ROM disc has to be made with a CD writer SW.

Note:
1) The file name used for writing on the CD-R/RW MUST be in UPPER CASE. e.g.: GAP.BIN
2) For better and fast reading, add one big garbage file of 50-100MB.

2.3.4.1. Software upgrade procedure

1) Open disc door on the player.
2) Put the DOWNLOAD DISC into the player and close disc door.
3) The upgrading operation will start automatically.
4) The Play_LED will blink (turn ON and OFF).
5) The upgrading will take approximately about 1 minute.
6) Take out the upgrade disc when the Play_LED stop blinking.

Important note:
Do not power off or interrupt the mains during the upgrading else the player's flash memory will be erased.

2.3.5. Verify setting

To check that the setting has change successfully.
1. Press <DISPLAY> button on the remote control while disc tray is open.
2. Two lines text will appear on the TV screen. That is how it looks like.

GAP542PH-030812-320-171U
SERVO:001FC74 REG:1

In text, the following numbers refer to:

- ***SD542PH-030812*** ➔ refer to Application software version
- ***REG 1*** ➔refer to region code
- ***SERVO:001FC74*** ➔ refer to servo software version
- ***320-171*** ➔ refers to set-up configuration of a type number,eg. DVP320/17

2.3.6. ComPair

There is no ComPair available.

Contents

Introduction
Environmental Information 4
Supplied accessories 4
Safety Information 4
Symbols Used in this Booklet 4

Functional overview
Top and Rear Panel 5
Remote Control 6

Preparation
Before you begin 7
Connecting to a TV with audio and video cables...7
Connecting to a TV with audio cable and component video cable....7
Connecting to a TV and a two-channel Stereo....7
Connecting to a TV and a Stereo....7
Replacing battery (lithium CR2025) into the remote control....8
Using the Remote Control 8
Connecting the Power Supply....8
Switching On 8
Smart Power On/Off....8

Operation
Basic Playback 9
General Operation 9
Video control during playback 9
Audio control during playback 9
Repeat/Shuffle 9
Repeat A-B 10
Virtual Remote Control....10
5 disc Resume 10
OSD (On-Screen Display)....10
Zoom 11
Special DVD Features 11
Playing a Title 11
Playing a Chapter 11
Smart Play....11
Camera Angle 11
Changing the Audio Language 11
Subtitles 11
Special VCD & SVCD Features 11-12
Playback Control (PBC) 11
Preview Function 12

Picture CD & MP3 CD Playback
General Operation....13
MP3 & JPEG Navigator....13
Play Mode....13
Special JPEG Features....14
Function Introduction....14
Preview Function....14
Zoom picture 14
Playback with multi-angles 14
Wipe Type....14
Special MP3 Features....14
Function Introduction....14
JPEG and MP3 Simultaneous Playback...14

Setup menu
General Setup menu 15
OSD language 15
Program 15-16
Disc Lock 16
Screen Saver 16
Analog Audio Setup menu 17
DOWNMIX....17
D.R.C 17
SOUND MODE 17
3D SOUND....18
Digital Audio Setup menu....18
Digital Output....18
LPCM Output....18
Video Setup menu....19
TV Type 19
TV Display 19
Progressive Scan....20
Closed Captions....20
Smart Picture....21
Picture Setting....21
Preference Setup menu 22
Audio language 22
Subtitle language 22
Disc Menu language 23
Parental Control 23
Default Setup....24
MP3/JPEG Navigator 24
Password 24

Specifications
Specifications 25

Maintenance
Maintenance 25

Troubleshooting
Troubleshooting 26

Language Code
Language Code....27-28

Introduction

Thank you for purchasing this Philips DVD player. This Owner's Manual explains the basic operation of this DVD player.

Environmental Information

All unnecessary packaging has been omitted. We have tried to make the packaging easy to separate into three materials: cardboard (box), polystyrene foam (buffer) and polyethylene (bags, protective foam sheet).

Your DVD player consists of materials which can be recycled and reused if disassembled by a specialized company. Please observe the local regulations regarding the disposal of packaging materials, exhausted batteries and old equipment.

Package Contents

- DVD-Video player
- Remote control with lithium battery
- One set of audio cables (red/white)
- One set of video cable (yellow)
- Mains Cord
- Owner's Manual

Safety Information

Before operating the DVD player, check that the operating voltage indicated on the typeplate is identical with the voltage of your local power supply. If not, please consult your dealer.
Place the DVD player on a flat, hard and stable surface.
Allow about one inch of space around the Player for ventilation. Leave room above the Player for the Disc compartment lid to open completely.
In a cabinet, allow about 2.5cm (1 inch) of free space all around the player for adequate ventilation.
Always close the Disc compartment lid on top of the Player to keep dust off the lens (which is inside the Disc compartment).
Do not touch the lens inside the Player's Disc compartment. A damaged lens could hinder Disc playability. Electrostatic discharge could damage the unit permanently.
When you open the Disc compartment lid, the Disc will continue to spin for a few seconds. Do not allow children to remove the Disc. Wait for the Disc to stop spinning completely before you reach to remove the Disc or touch the Disc.
Do not expose your player to extremes of temperature or humidity.
If the DVD player is brought directly from a cold to a warm location, or is placed in a very damp room, moisture may condense on the lens of the disc unit inside the DVD player. Should this occur, the DVD player would not operate normally.
Leave the power on for about one hour with no disc in the DVD player until normal playback is possible.
The mechanical parts of the set contain self-lubricating bearings and must not be oiled or lubricated.
When the DVD player is switched to Standby mode, it is still consuming some power. To disconnect the system from the power supply completely, remove the plug from the AC Outlet.

Symbols Used in this Booklet

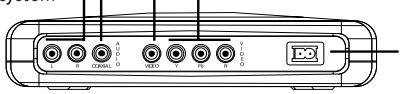
The below symbols appear in some headings and notes with the following meanings:

DVD	– Description refers to playback of DVD-video discs
VCD	– Description refers to playback of Video CDs
CD	– Description refers to playback of Audio CDs
SVCD	– Description refers to playback of Super VCDs

Helpful Hints!

Some discs limit certain functions during playback (eg fast forward is not working at the beginning of certain discs). This is nomal behaviour because the disc determines the way in which you can interact with its content.

Top and Rear Panels



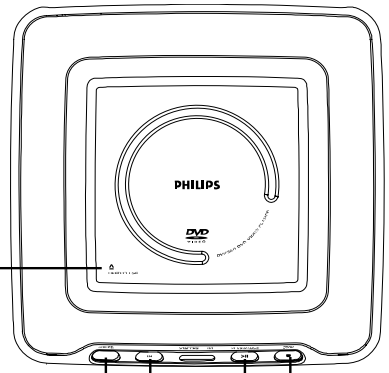
Coaxial output
ñ connect to a receiver with coaxial inputs

AUDIO OUT (Left/Right)
ñ connect to AUDIO inputs of an amplifier, receiver or stereo system

Video out (CVBS)
ñ connect to a TV with CVBS inputs

Video out (Y P_b P_r)
ñ connect to a TV with component video inputs

Mains Socket
ñ connect to power cord



OPEN/CLOSE
ñ open/close the disc tray

POWER
ñ switch DVD on or off

Remote sensor
Receive the commands from the DVD Playerís remote control. When using the DVD Playerís remote control to operate the Player, point the remote here (not toward your TV).

STOP
ñ stop playback

PLAY/PAUSE
ñ start/interrupt playback

Caution:
Do not touch the inner pins of the sockets on the rear panel. Electrostatic discharge may cause permanent damage to the unit.
Do not touch the lens inside the Playerś Disc compartment. A damaged lens could hinder Disc playability. Electrostatic discharge could damage the unit permanently.

Remote Control

RETURN / TITLE
Press to go to a previous Disc menu or to access a DVDís Title menu. These options are not available with all Discs.

DISC MENU
Press to access menu of a DVD disc /switch PBC on or off for VCD disc

OK
Press to approve a menu selection.

1 2 3 4
Press to select items in a menu. Press 1 or 2 for fast searching. Press 3 or 4 for slow motion.

S
Press to go to the beginning of the current Chapter or Track or to the previous Chapter or Track. Press and hold to display the Virtual Remote on screen.

STOP (9)
Press to stop Disc playback.

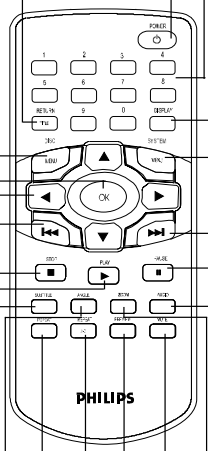
PLAY (B)
Press to begin Disc playback

SUBTITLE
Press to select subtitle language

ANGLE
Press to select a camera angle during DVD play.

REPEAT
Press to play a Chapter, Title, Track, or Disc repeatedly. Details are on Page 10.

REPEAT (A-B)
Press to set up Repeat A-B playback, in which a certain segment of the Disc plays repeatedly.



POWER B
Press to switch Standby mode.

0-9 numerical key pad
Press to select numbered items in a menu. Press to select a Chapter, Title, or Track to play.

DISPLAY
Press during playback to see current disc information on the TV screen.

SYSTEM MENU
Press to access or remove the Setup Menu of the DVD Player.

T
Press to skip to the next Chapter or Track. Press and hold to activate the Smart Play function.

PAUSE (;)
Press to pause play or to advance a paused picture one frame at a time.

AUDIO
Press to select a different audio language or soundtrack during DVD playback. With some Video CDs, Super Video CDs, and Audio CDs, press AUDIO to choose an audio channel.

ZOOM
Press to reduce or enlarge the picture during playback.

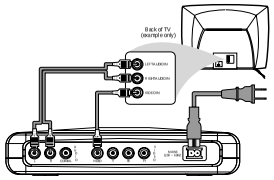
PREVIEW
Press to enter the Preview menu for a Video CD or Super Video CD. Or, press to play the first several seconds of each Track on an Audio CD.

MUTE
Press to silence or restore the volume.

Before you begin...

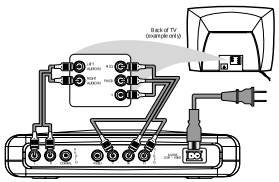
Refer to the instructions of your TV, VCR, Stereo, or other devices. Note the style of jacks and connectors on the other equipment. Determine how to choose different Audio and Video In channels/sources on your other equipment. Disconnect all equipment from the power outlets. Connect equipment to power only after hooking up everything. Never make or change connections with equipment connected to power. Please refer to the below choices we introduce to you and select either one of them.

Connecting to a TV with audio and video cables



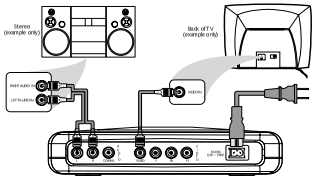
Connect the VIDEO jack on the DVD player to the corresponding CVBS VIDEO IN jack on your TV (cable supplied).
Connect the AUDIO OUT (Left/Right) on the DVD player to the corresponding AUDIO IN jacks on TV by using audio cable (supplied). Match the cable colors to the jack colors.

Connecting to a TV with audio cable and component video cable



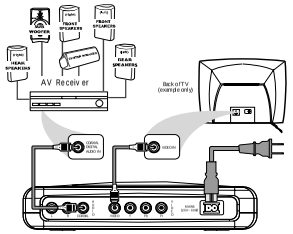
Connect the Y/Pb/Pr VIDEO OUT on the DVD player to the corresponding jack on your TV by using component video cable (not supplied). Match the cable colors to the jack colors.
Connect the AUDIO OUT (Left/Right) on the DVD player to the corresponding AUDIO IN jacks on TV by using audio cables (supplied). Match the cables color to the jack colors.

Connecting to a TV and a two-channel Stereo



Connect the VIDEO jack on the DVD player to the corresponding CVBS VIDEO IN jack on your TV (cable supplied).
Connect the AUDIO OUT (Left/Right) on the DVD player to the corresponding AUDIO IN jacks on stereo system by using audio cables (supplied). Match the cable colors to the jack colors.

Connecting to a TV and a Stereo



Connect the VIDEO OUT jack on the DVD player to the corresponding VIDEO IN jack on your TV by using composite video cable (cable supplied) or component video cable (not supplied).
Connect the COAXIAL jack of the DVD player to the corresponding DIGITAL AUDIO IN jack on your AV Receiver (cable not supplied). In this case, do not use the player's audio left and right output.

Warning!

ñ Connect the DVD player directly to your TV, instead of eg. a VCR, to avoid distortion because DVD video discs are copy protected.

ñ Do not connect the DVD player AUDIO OUT to PHONO IN of your player.

ñ Set DIGITAL OUTPUT correctly. The Stereo must support MPEG2 or Dolby Digital™. Check the Stereoís manual to be sure.

Replacing battery (lithium CR2025) into the remote control

1. Pull out the lithium battery compartment.
2. Replace a new battery and fully insert the battery compartment back to the original position.

CAUTION!

ñ Insert the plastic protective sheet if they are exhausted or not to be used for a long time.

ñ Batteries contain chemical substances, so they should be disposed off properly and kept away from children.

Using the Remote Control

Pull out the plastic protective sheet which is used to keep the lithium battery fresh.
Direct the remote control at the remote sensor of the DVD player.
Do not drop or give the remote control a shock.
Do not leave the remote control in extremely hot or humid places.
Do not spill water or put anything wet on the remote control.

Connecting the Power Supply

1. Plug the female end of the power cable supplied into the power connector on the rear of the player.
2. Plug the male end of the cord into an AC outlet.

Note: When the DVD player is switched to Standby mode, it is still consuming some power. If you wish to disconnect your player completely from the mains, withdraw the plug from the AC Outlet.

Switching On

1. Be sure that the DVD player has been correctly connected to the TV and audio equipment.
2. Switch on the TV and DVD player.
3. Set the TV to the correct Video In channel. (eg. EXT1, EXT2, AV1, AV2, AUDIO/VIDEO, etc. Please refer to your TV owner's manual for details.)
   The player display lights and the default screen appears on the TV.
4. If you are using an external equipment (eg. audio system or receiver), turn it on and select the appropriate input source for the DVD player output. Refer to the equipment ownerís manual for detail.

Smart Power On/Off

When in STOP or NO DISC mode, the DVD player will switch to standby mode after 15 minutes without any operations for saving energy. It is easily reactivated by pressing the POWER or PLAY key on the remote control or the PLAY button on the front panel.

About Progressive Scan

If your TV set has the Progressive Scan, please connect the Y/Pb/Pr VIDEO OUT jacks on the DVD player to the corresponding jacks on the TV set with the component video cables (no supplied). After connection, please activate the PROGRESSIVE function of the DVD player. Refer to the chapter Progressive Scan for more details.

Deactivating Progressive Scan

If you have activated the PROGRESSIVE function, however, your TV set doesnít have the function actually, or the component cable doesnít be correctly connected, the TV set will not display normally. You can deactivate the function as follows:

1. Press the POWER button on the front panel to turn on the DVD player.
2. Press OPEN/CLOSE to release the disc compartment lid on top of the player.
3. Press the 1 , and then press the MUTE key.
   DVD player will restore the interlace video output.

Basic Playback

1 Press POWER on the top panel to turn on the DVD player. Turn on your TV. Set it to the correct Video In channel.
2 Press OPEN/CLOSE on the top panel to open the disc compartment.
3 Place the Disc on the Disc hub, with the label facing up and then press the lid down.
After recognizing the disc, the player will start to playback automatically.
4 Wait for the Disc to stop spinning completely before you reach to remove the Disc or touch the Disc.

Notes:
ñ DVDs may have a region code. Your player will not play discs that have a region code different from the region code of your player.
ñ If ëDisc Lockí is set to LOCK and the disc inserted is not authorized, the 6-digit code must be entered and/or the disc must be authorized (see ëDisc Lockí).

General Operation

Note: All instructions set out below refer to the remote control, unless otherwise stated.

Video control during playback

STOP/PLAY DVD VCD CD SVCD

1 If you press the STOP key once, you can later resume from the point at which you stopped by pressing the PLAY key. If you pressed the STOP key twice, the player will start from the beginning of the disc.

PAUSE DVD VCD CD SVCD

1 To get a still picture, press PAUSE key during playback.
2 To step forward to the next frame picture, press PAUSE key again. (This is not available for CD.)
3 To resume normal playback, press PLAY.

SEARCH DVD VCD CD SVCD

1 To search the contents in fast speed, press the 2 or 1 for fast forward/backward searching.
2 To select different searching speeds, press the 2 or 1 again.
3 Press PLAY to return to normal playback.

Slow Motion DVD

1 To get a slow motion effect during playback, press 3 or 4 .
2 To select different searching speeds, press 3 or 4 repeatedly.
3 Press PLAY to return to normal play back.

VCD SVCD

1 To get a slow motion effect during playback, press 4 .
2 To select different searching speeds, press 4 again.
3 Press the PLAY key to return to normal play back.

NOTE:
- The SLOW BACKWARD function is not available for SuperVCD/VCD discs.

Audio control during playback

MUTE DVD VCD CD SVCD

1 Press the MUTE key to disable the sound output.
2 Press the MUTE key again to deactivate mute.

Audio channel selection

VCD CD SVCD

1 SuperVCD has two stereo audio channels which are used for the audio language selection.
2 Press the AUDIO key on the remote control to select the audio channels you want.
3 VCD has only one stereo audio channel, you can select STEREO, LEFT MONO, RIGHT MONO or MIX-MONO by pressing the AUDIO key on the remote control.
STEREO: Output the left and right audio channels of the disc through the left and right audio sockets accordingly.
MONO LEFT: Output the left audio channels of the disc through the left and right audio sockets.
MONO RIGHT: Output the right audio channels of the disc through the left and right audio sockets.
MIX MONO: each of the audio sockets can output the same audio effect as stereo.
Note: If you choose digital audio output and set DIGITAL OUTPUT to ALL, you can not select LEFT MONO and RIGHT MONO with the AUDIO key.

Repeat/Shuffle

DVD VCD CD

You may play a Chapter, Track, Title, or entire Disc repeatedly.
1 During disc playback, press REPEAT to choose a Repeat option.
DVD disc: You can choose TITLE or CHAPTER, which means repeat playing the Title or Chapter.
VCD disc: You can choose TRACK or ALL, which means repeat playing the Track or the whole disc.
2 Press REPEAT to choose SHUFFLE or SHUFFLE REPEAT. The Tracks, Chapters, and/or Titles will play in random order (SHUFFLE) instead of the order recorded (1, 2, 3, etc.). If you choose SHUFFLE REPEAT, all the Tracks, Chapters, and/or Titles will play in random order repeatedly.

3 To cancel repeat or shuffled playback, press REPEAT until all the repeat and shuffle modes disappear from the TV screen.

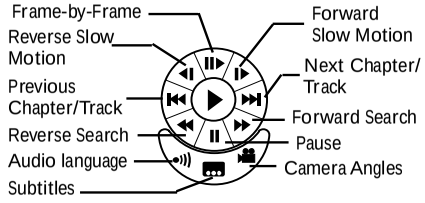
Note: If you want to use this funciton in VCD discs, please set PBC off firstly.

Repeat A-B DVD VCD CD

DVD-Video Discs: repeat a sequence in a title or chapter
Video and Audio CDs: repeat a sequence in a track
1 Press REPEAT A- B at your chosen starting point.
2 Press REPEAT A- B again at your chosen end point.
The repeat sequence begins.
3 To exit the sequence, press REPEAT A-B.

Virtual Remote Control

DVD VCD SVCD



0 Press and hold °1 key during playback. Then a Virtual Remote will be displayed at the down left corner of the screen. Press 341 2 to select a button in the virtual remote, and then press OK in the real remote to activate the button's function.
When you activate Virtual Remote Control, you also can use the real remote control to do any operation.
When you activate Virtual Remote Control, 341 2 keys will not be used to search time.

5 Disc Resume

DVD SVCD VCD CD

This player can resume playback of the last 5 discs, even if the disc was ejected or the DVD player is in Standby mode.
1 Load one disc, which is one of the last 5 discs.
2 Press PLAY when DVD player is recognizing the disc. If the information of this disc has been stored in the memory of DVD player, it will be played back from the stop point last time.

OSD (On-Screen Display)

DVD VCD SVCD

This function will provide some information about your playing disc on the screen.
0 Press DISPLAY key on the remote control.

Title/Chapter/Track Selection
1 Press 3 4 to select TITLE, CHAPTER or TRACK.
2 Press OK.
3 Press the numerical keys to enter the Title, Chapter, or Track number you want.
DVD player will playback selected title.

Time Search
1 Press 3 4 to select TIME DISP. Press OK. Press 3 4 to highlight a display type, then press OK.
The selected display type and its counter will appear at the bottom of the display.
The following display types will be available, depending on the Disc in the Player.

For DVD discs:
CHAPTER ELAPSED - elapsed playing time of current Chapter;
CHAPTER REMAIN - remaining playing time of current Chapter;
TITLE ELAPSED - elapsed playing time of current Title;
TITLE REMAIN - remaining playing time of current Title.

For VCD/SVCD discs:
TOTAL ELAPSED - elapsed playing time of current Disc;
TOTAL REMAIN - remaining playing time of current Disc;
SINGLE ELAPSED - elapsed playing time of current Track;
SINGLE REMAIN - remaining playing time of current Track.
2 Press OK to select the time counter beside TT TIME, CH TIME, TRACK TIME or DISC TIME.
3 Press the numerical keys to enter the elapsed playing time at which you want to resume playback.
Enter the time in hours, minutes, and seconds. Play will start at that point.
Press 1 to quit and reselect TT TIME, CH TIME, TRACK TIME or DISC TIME.

Zoom DVD VCD SVCD

You can reduce or enlarge the video image during playback.

1 Press ZOOM repeatedly during Disc playback to make the picture two, three, or four times larger. Or, keep pressing ZOOM to reduce the picture to 1/2, 1/3, or 1/4 its normal size.
Press 341 2 to move around in the enlarged picture.

2 To return the picture to regular size, press ZOOM until the picture returns to its normal size.

NOTE: This function is NOT available for some DVD discs.

Special DVD Features

Playing a Title DVD

A DVD disc may have one or more titles. This depends on the content (a movie, video clips, a drama series, etc.) on the disc.

0 After you load a disc, information about the content shows on the screen waiting for your selection. You can also press the TITLE key on the remote control to turn back to the title menu during playback.
Press the appropriate numerical key or 341 2 keys on the remote control to highlight your selection.
Press the OK key to confirm.

Playing a Chapter DVD

When you have selected a title, it may include one or more chapters.

0 Any time you want to watch another chapter during playback, press DISC MENU key to turn back to the chapter menu (If disc has chapter menu).
Press the appropriate numerical key or 341 2 keys on the remote control to highlight your selection.
Press the OK key to confirm.
After a chapter has been selected, you also can press the °1 or 2ô key to make a change.

Smart Play DVD

Some DVDs start play with movie previews, advertisements, or other theatrical trailers. To skip these and play the main feature, use Smart Play.

0 After one DVD disc is loaded and the DVD VIDEO is displayed on the screen, press and hold the 2ô key until the SMART PLAY is displayed.
The movie content will be played back directly.

Note: Some DVD discs will not be available for this function.

Camera Angle DVD

Some discs contain scenes which have been shot simultaneously from various angles.
This DVD player allows you to select the desired camera angle.

0 Press the ANGLE key on your remote control.

NOTE: The function is available only for the DVD discs which have several angles recorded .

Changing the Audio Language DVD

0 Press AUDIO repeatedly to select the different languages.

NOTE: The function will be activated only if the DVD is recorded with multi-language audio tracks.

Subtitles DVD SVCD

0 Press SUBTITLE repeatedly to select the different subtitles.

0 Press SUBTITLE for about 2 seconds to switch subtitle on or off.

NOTE: The function will be activated, only if the DVD or Super VCD is recorded with multi-subtitles.

Special VCD & SVCD Features

Playback Control (PBC) VCD

PBC function allows you to enter the index menu which is used to select a track after loading the VCD & SVCD disc.

If you want to activate the function during the playback or after pressing the STOP key twice,

1 press the DISC MENU key on the remote control to set the PBC On.
Pay attention to the hint on the screen.

2 Use the °1 or 2ô key to select the page you like.
If the items of the index menus are numbered, press the appropriate numerical key on the remote control.
press the OK key to confirm.

3 Press the RETURN key to enter the index menu during the playback.

NOTE:
- The content of the index menu depends on the disc. Please refer to the disc's instructions for details.
- If the disc doesn't include the PBC information, this function will have no effect.

If you want to skip the index menu and playback directly from the beginning,

1 press the DISC MENU key on the remote control to switch off the function.

Preview Function VCD

0 Press the PREVIEW key to enter previewing menu.

0 Press 34 key to highlight TRACK DIGEST, DISC INTERVAL or TRACK INTERVAL.

0 Press OK key to open one option.

0 After you enter the menu of any digest type,
To quit preview function: Press 341 2 to highlight EXIT and press OK to confirm.
To return to the previewing menu for selecting the other digest type: Press 3 4 1 2 to highlight MENU and press OK to confirm.

1 ***Track Digest***

If you select TRACK DIGEST, the first five seconds of each Track will play. This introduces you to the contents of each Track on the Disc.

- To choose your desired track, please press 341 2 to go to the SELECT line in the display at the bottom of the TV screen. Press the numerical keys to enter the Track you want.
To see other Tracks, press Previous °1 or Next 2ô on the remote.
- Press the OK key to start playback.

2 ***Disc Interval***

If you select DISC INTERVAL, the Disc contents will be divided into six segments. This helps you preview the contents of the entire Disc.

- To start playing the Disc from a certain interval, press 341 2 to go to the SELECT line in the display at the bottom of the screen.
- Press the numerical keys to choose a segment (1-6), then press OK to start play from that point.

3 ***Track Interval***

If you select TRACK INTERVAL, the current Track will be divided into six parts. This helps you see the contents of the current Track.

- To play the Track from a certain interval, press 3 4 1 2 to go to the SELECT line.
- Press the numerical keys (1-6) to choose a segment, then press OK to start play from that point.

This player can playback JPEG format pictures and MP3 files on a personally recorded CD-R/RW disc or commercial CD, and is compatible with Kodak Picture CD.

- Playback songs one by one automatically.
- Album and track selection.
- Repeat/Shuffle Playback (disc / album / track / picture).
- Picture Preview.
- Select any music or pictures from the disc to playback them together.
- Program Playback.
- Maximum number of files within one folder is 500
- Maximum files Programmable is 100.
- MP3: Maximum supported Bitrate is 256kbits or 48kHz in Variable Bitrate mode
- JPEG: Maximum supported resolution is 3072 x 2048 (for baseline JPG pictures), or 2000 x 1500 (for progressive JPG pictures).

General Operation

- If you choose WITH MENU in the Setup Menu (Please refer to the MP3 & JPEG navigator below), the Picture CD/MP3 CD menu will be shown on the screen before playback.
- At any time during playback, press DISC MENU to return to the menu.
- Press 3 or 4 to highlight an Jpeg file in the Disc's menu, then the picture will be previewed on the right side of the menu.

MP3 & JPEG Navigator

To select a different playback method, follow the steps below.

1. At STOP mode, press the SYSTEM MENU key to open the setup menu.
2. Press 2 to highlight the ***PREFERENCE PAGE*** icon at the top of the menu.
3. Press OK or 4 to open the PREFERENCE menu.
4. Press the 3 4 key to highlight the MP3/JPEG NAV menu.
5. Press the 2 key to enter the menu.
6. Press the 3 4 key to highlight the WITHOUT MENU or WITH MENU item.
   WITHOUT MENU: playback mp3 files automatically in according to the date sequence.
   WITH MENU: playback files in the selected folder.
8. Press the OK key to confirm your selection.

Play Mode

Playback Selection

- One way is to press the number of your favourite file plus one to play the file at any time during playback.
- Another way is to select via the menu.

1. Press DISC MENU to open the Picture CD/MP3 CD menu.
2. When the menu appears on the screen, press the 3 4 key to select the folder you want and press the OK to open it.
3. Press 3 or 4 to highlight a file in the folder and press OK to confirm.
   The playback will start from this file.

Repeat / Shuffle

- During JPEG play, press REPEAT to choose:
  REPEAT ONE - Keep the current JPEG image still on the screen.
  REPEAT ALL - Play all files on the Disc repeatedly.
  SHUFFLE - Play files in random order.
  REPEAT OFF - Cancel all repeat options and resume normal playback.
- While the menu is on the screen, press REPEAT to choose:
  FOLDER - All file in the current folder will play once.
  REPEAT ONE - Keep a JPEG image still on the screen or plays an MP3 file repeatedly.
  REPEAT FOLDER - Play files in the selected folder repeatedly.
  SHUFFLE - Play files in random order.

Program Playback

1. While the Disc menu is on the screen and play is stopped, press 1 to switch into the FILELIST. FILELIST will flash briefly at the bottom of the screen.
2. Press 3 or 4 to choose a file to add to the playlist, then press 2. ADD TO PLAYLIST will appear briefly at the bottom of the screen. (To remove an item from the Program, press 1 to go to the PLAYLIST. Press 3 or 4 to choose the item, then press 2 to remove it. REMOVE FROM PLAYLIST will appear briefly at the bottom of the screen.) The maximum number of files for a Program is 100.
3. To play the Program, press 3 or 4 to select any item in the PLAYLIST, then press OK to start playing the Program from that point.
   To quit the PLAYLIST, press 1.

Special JPEG Features

Function Introduction

Picture CD is a disc with a collection of JPEG format pictures, and all extension filenames should end with 'JPG'. The CD can be recorded on any computer, and pictures may be from digital camera or scanner. If the customers prefer, they can make this CD become a Digital Album.

You can choose any general function introduced in GENERAL OPERATION, besides, you also can,

- Display the thumbnails of 12 pictures.
- Zoom the picture.
- Rotate the picture.
- Flip the picture vertically or horizontally.
- Play pictures by different wipe types.

Preview Function

This function shows the content of the current folder or the whole disc.

1. Press the STOP key during playback of JPEG pictures. You will see the thumbnails of 12 pictures on the screen.
2. Press 2ô or °1 key to display the other pictures on the next or the previous page.
3. Press the 1 2 3 4 key to highlight one of them and press OK to playback. Or,
   Move the cursor to select filmstrip icon at the bottom of the screen, then press OK. This will start playback at the first picture on the current page.
4. Press DISC MENU to go to the Picture CD/MP3 CD menu.

Zoom picture

- During playback, press ZOOM key to display the picture with different scales.
- Press the 1 2 3 4 key to move or pan through the picture.

Note: When the Jpeg Zoom function is activated, some keys like SYSTEM SETUP, PLAY, etc. can not be used normally.

Playback with multi-angles

When displaying one picture on TV screen

- Press the 3 4 1 2 key to get different effects.
  3 key: Flip the picture vertically.
  4 key: Flip the picture horizontally.
  1 key: rotate the picture anti-clockwise.
  2 key: rotate the picture clockwise.

Wipe Type

- Press ANGLE repeatedly during JPEG play to choose how the pictures will transfer in/out during play. The default setting is RANDOM.

Special MP3 Features

Function Introduction

ì MP3î stands for ì MPEG Audio Layer-3î and is a part of the MPEG standard. A CD can store up to 10 hours of MP3 audio, which is nearly 10 times as much as an Audio CD. Each song is recorded as a file. You can choose any general function introduced in GENERAL OPERATION. You can also choose different playback speeds.

- To automatically playback MP3 after loading a MP3 CD without Jpeg pictures, you can choose WITHOUT MENU in the MP3/JPEG NAV menu.
- To stop the track, press STOP key during playback.
- To fast forward or fast reverse the track during playback at two, four, eight, 16, or 32 times the normal playback speed, press 2 or 1 key.
- To select next or previous track, press 2 ô or ° 1 key.

JPEG and MP3 simultaneous playback

1. Start playing the MP3 file as described above.
2. Select a JPEG for playback as described above.
3. To stop simultaneous playback, press DISC MENU to stop JPEG playback. Then press ***STOP*** to stop MP3 playback.

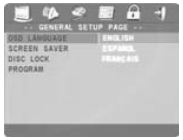
General Setup menu

Some settings need to be made in this menu. They are: DISC LOCK, PROGRAM, OSD LANGUAGE and SCREEN SAVER.
Follow the steps below:

1 Press the SYSTEM MENU key in STOP mode to enter the setup menu.
2 The GENERAL SETUP PAGE will be selected.
3 Press the OK or 4 key to confirm selection.

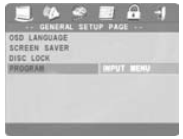
OSD language

This option is to let you to select a language for information displayed on TV screen.



1 Press the 34 keys to highlight OSD LANGUAGE in the GENERAL SETUP menu. OSD LANGUAGE will be highlighted in green.
2 Enter its submenu by pressing the 2 key.
3 Move the cursor by pressing the 34 keys to highlight the selected language.
4 Press the OK key to confirm.
5 Press 1 key to return to the top menu, or press SYSTEM MENU to remove the menus.

Program (not for Picture CD/MP3)



1 To choose PROGRAM, press 3 4 keys.
2 Press the 2 key to select the item INPUT MENU, then press OK.
The PROGRAM menu will appear. This is where you enter the Track/Chapter numbers in the order in which you want to play them.

Input your favorite track

1 Input valid track number by pressing the numerical keys.
The number of available Titles, Chapters, or Tracks will appear at the top of the screen.
2 Use the 1 234 buttons to move to other Program positions.
If the track number is more than ten, press Previous °1 or Next 2ô to access other Program pages. Or, press 1 234 to highlight NEXT button, and then press OK.
3 Repeat this process to fill the Program.

Remove a track

1 Press the 1 234 keys to move the cursor to the track you want to remove.
2 Press OK or PLAY 2 key to remove this track.

Playback tracks

When programing is completed,
1 Press the 1 234 keys to select ***START*** at the bottom of the screen.
2 Press OK.
The Program will start playing automatically.
3 When the disc is loaded again, you also can playback the tracks in the program menu.

Quit the program playback

In the PROGRAM menu,
1 Press the 1 234 keys to select ***EXIT*** at the bottom of the screen.
2 Press the OK key to quit this menu.

Stop the program playback

0 To resume normal playback, press STOP 9 twice to stop playing the Program. Press PLAY 2 to start play at the beginning of the Disc.

Repeat the program playback

0 During playback of the programmed tracks, press the REPEAT key. You can choose playback a track in the program menu repeatedly or all of the tracks in program menu repeatedly.

Disc Lock

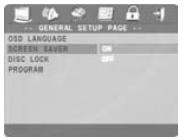
When the disc is locked, the player will store its specific code into the memory for future identification. After loading the disc next time, the DVD player will prompt you to enter the password. Then, press OK to load the disc.

1 Press the 34 keys to highlight DISC LOCK in the GENERAL SETUP menu.
2 Enter its submenu by pressing the 2 key.
3 Press the 3 4 keys to select LOCK or UNLOCK, then press OK to confirm.
LOCK: Lock the disc being played.
UNLOCK: unlock the disc.
5 Press 1 key to return to the top menu, or press SYSTEM MENU to remove the menus.

NOTE:
1. When a locked disc is loading, the DVD player will prompt you to enter your password (842100 is the default password).
2. To change the password , refer to the PASSWORD chapter.

Screen Saver

This function is used to turn the screen saver on or off.



1 Press the 34 keys to highlight SCREEN SAVER in the GENERAL SETUP menu.
2 Enter its submenu by pressing the 2 key.
3 Move the cursor by pressing the 34 keys to highlight the selected item.
ON: In STOP or No DISC mode, if no actions are performed within 5~6 minutes, the screen saver will be activated. Press the POWER or PLAY key on the remote control or the PLAY key on the front panel to restore the normal mode.
OFF: Screen saver is disabled.
4 Press OK to confirm.
5 Press 1 key to return to the top menu, or press SYSTEM MENU to remove the menus.

Setup Menu

Quit the program playback

In the PROGRAM menu,

1 Press the 1 2 3 4 keys to select ***EXIT*** at the bottom of the screen.

2 Press the OK key to quit this menu.

Stop the program playback

0 To resume normal playback, press STOP 9 twice to stop playing the Program. Press PLAY 2 to start play at the beginning of the Disc.

Repeat the program playback

0 During playback of the programmed tracks, press the REPEAT key. You can choose playback a track in the program menu repeatedly or all of the tracks in program menu repeatedly.

Disc Lock

When the disc is locked, the player will store its specific code into the memory for future identification. After loading the disc next time, the DVD player will prompt you to enter the password. Then, press OK to load the disc.

1 Press the 3 4 keys to highlight DISC LOCK in the GENERAL SETUP menu.

2 Enter its submenu by pressing the 2 key.

3 Press the 3 4 keys to select LOCK or UNLOCK, then press OK to confirm.

LOCK: Lock the disc being played.

UNLOCK: unlock the disc.

5 Press 1 key to return to the top menu, or press SYSTEM MENU to remove the menus.

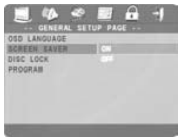
NOTE:

1. When a locked disc is loading, the DVD player will prompt you to enter your password (842100 is the default password).

2. To change the password , refer to the PASSWORD chapter.

Screen Saver

This function is used to turn the screen saver on or off.



1 Press the 3 4 keys to highlight SCREEN SAVER in the GENERAL SETUP menu.

2 Enter its submenu by pressing the 2 key.

3 Move the cursor by pressing the 3 4 keys to highlight the selected item.

ON: In STOP or No DISC mode, if no actions are performed within 5~6 minutes, the screen saver will be activated. Press the POWER or PLAY key on the remote control or the PLAY key on the front panel to restore the normal mode.

OFF: Screen saver is disabled.

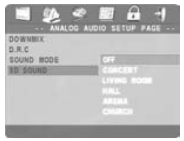
4 Press OK to confirm.

5 Press 1 key to return to the top menu, or press SYSTEM MENU to remove the menus.

Setup Menu

3D SOUND

The 3D SOUND can simulate the echoes and frequencies that may be available in a particular environment. Choose the environment that you would like to recreate by changing the 3D SOUND setting.



1 Press the 3 4 keys to highlight the 3D SOUND.

2 Enter its submenu by pressing the 2 key.

3 Move the cursor by pressing the 3 4 keys to highlight the selected item.

OFF: Playback the disc with original sound effects.

4 Press OK.

5 Press 1 key to return to the top menu, or press SYSTEM MENU to remove the menus.

Digital Audio Setup menu

Use the DIGITAL AUDIO SETUP to adjust some of the Player's digital sudio settings.

1 Press SYSTEM MENU in STOP mode.

2 Press the 1 2 keys to highlight the AUDIO SETUP PAGE icon at the top of the menu.

3 Press OK or 4 to confirm.

4 Press the 3 4 keys to select DIGITAL AUDIO SETUP. Press OK.

Digital Output

If you connected the Player to a Stereo using the COAXIAL jack, adjust DIGITAL OUTPUT (audio) as described below. If you are not using the COAXIAL jack, no adjustment is necessary.

1 Press the 3 4 keys to highlight DIGITAL OUTPUT.

2 Enter its submenu by pressing the 2 key.

3 Press the 3 4 keys to highlight the selected item.

ALL: To select the original default audio settings as received by most Stereos.

PCM ONLY: If your stereo is PCM-compatible, or can not decode MPEG-2 or DTS audio. Refer to your Stereo manual for details.

4 Press OK.

5 Press 1 key to return to the top menu, or press SYSTEM MENU to remove the menus.

Note: If DIGITAL OUTPUT is set to ALL, all audio settings except MUTE are invalid.

LPCM Output

If you connect the DVD player to a PCM compatible Stereo via the digital terminals, such as coaxial etc, you may need to select LPCM OUTPUT.

Discs are recorded in a certain sampling rate. The higher the sampling rate, the better the sound quality.

1 Press the 3 4 keys to highlight the LPCM OUTPUT.

2 Enter its submenu by pressing the 2 key.

3 Move the cursor by pressing the 3 4 keys to highlight the selected item.

48K: Playback a disc recorded at the sampling rate of 48kHz.

96K: Playback a disc recorded at the sampling rate of 96kHz.

4 Press OK.

5 Press 1 key to return to the top menu, or press SYSTEM MENU to remove the menus.

Analog Audio Setup menu

This menu is used to adjust some of the Player's analog audio settings, such as DOWNMIX, D.R.C. (Dynamic Range Compression), SOUND MODE, and 3D SOUND.

1 Press SYSTEM MENU in STOP mode.
2 Press the 1 2 keys to highlight the AUDIO SETUP PAGE icon at the top of the menu.
3 Press OK or 4 to confirm.

4 ANALOG AUDIO SETUP will be highlighted. Press OK

DOWNMIX

1 Press the 34 keys to highlight the DOWNMIX.
2 Enter its submenu by pressing the 2 key.
3 Move the cursor by pressing the 34 keys to highlight the selected item.

0 LT/RT
If you connected the Player to a stereo that has Dolby Pro Logic.

0 STEREO
If you connected the Player to a TV or Stereo that has left and right Audio in jacks but does not have Dolby Pro Logic.

4 Press OK.
5 Press 1 key to return to the top menu, or press SYSTEM MENU to remove the menus.

D.R.C. (Dynamic Range Compression)

The DVD player will compress the dynamic range of its sound output for late-night listening.

1 Press the 34 keys to highlight D.R.C..
2 Enter its submenu by pressing the 2 key.
3 Move the cursor by pressing the 34 keys to highlight the selected item.
ON: Enable D.R.C.
OFF: Disable D.R.C.
4 Press OK.
5 Press 1 key to return to the top menu, or press SYSTEM MENU to remove the menus.

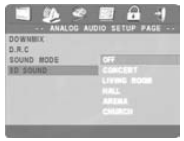
Sound Mode

Select the sound mode that matches the type of music you play most often. These preset sound modes adjust the frequency bands of the audio to enhance your favourite music style.

1 Press the 34 keys to highlight the SOUND MODE.
2 Enter its submenu by pressing the 2 key.
3 Move the cursor by pressing the 34 keys to highlight the selected item.
NONE: Playback the disc with its original sound effects.
4 Press OK.
5 Press 1 key to return to the top menu, or press SYSTEM MENU to remove the menus.

3D SOUND

The 3D SOUND can simulate the echoes and frequencies that may be available in a particular environment. Choose the environment that you would like to recreate by changing the 3D SOUND setting.



1 Press the 34 keys to highlight the 3D SOUND.
2 Enter its submenu by pressing the 2 key.
3 Move the cursor by pressing the 34 keys to highlight the selected item.
OFF: Playback the disc with original sound effects.
4 Press OK.
5 Press 1 key to return to the top menu, or press SYSTEM MENU to remove the menus.

Digital Audio Setup menu

Use the DIGITAL AUDIO SETUP to adjust some of the Player's digital sudio settings.

1 Press SYSTEM MENU in STOP mode.
2 Press the 1 2 keys to highlight the AUDIO SETUP PAGE icon at the top of the menu.
3 Press OK or 4 to confirm.
4 Press the 34 keys to select DIGITAL AUDIO SETUP. Press OK

Digital Output

If you connected the Player to a Stereo using the COAXIAL jack, adjust DIGITAL OUTPUT (audio) as described below. If you are not using the COAXIAL jack, no adjustment is necessary.

1 Press the 34 keys to highlight DIGITAL OUTPUT.
2 Enter its submenu by pressing the 2 key.
3 Press the 34 keys to highlight the selected item.
ALL: To select the original default audio settings as received by most Stereos.
PCM ONLY: If your stereo is PCM-compatible, or can not decode MPEG-2 or DTS audio. Refer to your Stereo manual for details.
4 Press OK.
5 Press 1 key to return to the top menu, or press SYSTEM MENU to remove the menus.

Note: If DIGITAL OUTPUT is set to ALL, all audio settings except MUTE are invalid.

LPCM Output

If you connect the DVD player to a PCM compatible Stereo via the digital terminals, such as coaxial etc, you may need to select LPCM OUTPUT.
Discs are recorded in a certain sampling rate. The higher the sampling rate, the better the sound quality.

1 Press the 34 keys to highlight the LPCM OUTPUT.
2 Enter its submenu by pressing the 2 key.
3 Move the cursor by pressing the 34 keys to highlight the selected item.
48K: Playback a disc recorded at the sampling rate of 48kHz.
96K: Playback a disc recorded at the sampling rate of 96kHz.
4 Press OK.
5 Press 1 key to return to the top menu, or press SYSTEM MENU to remove the menus.

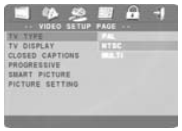
Video Setup menu

There are items included in VIDEO SETUP menu such as TV TYPE, TV DISPLAY, CLOSED CAPTIONS, SMART PICTURE, PICTURE SETTING.

1 Press SYSTEM MENU.
2 Press the 1 2 keys to highlight the VIDEO SETUP PAGE icon at the top of the menu.
3 Press OK or 4 to confirm.

TV Type

Before viewing the DVD or VCD, ensure that the PAL or NTSC setting of the system matches your TV set.



1 Press the 34 keys to highlight TV TYPE in the VIDEO SETUP menu.
2 Enter its submenu by pressing the 2 key.
3 Move the cursor by pressing the 34 keys to highlight one option.
MULTI: If your TV is compatible with both NTSC and PAL and you want the DVD Player to automatically select the color system of the current DVD.
PAL: To output image in PAL system.
NTSC: To output image in NTSC system.
4 Press OK.
5 Press 1 key to return to the top menu, or press SYSTEM MENU to remove the menus.

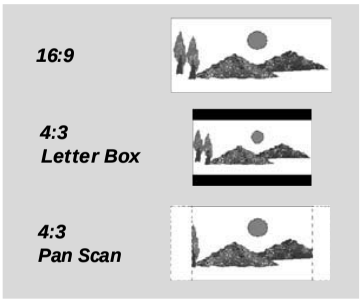
NTSC/PAL Conversion

This player is equipped with a NTSC/PAL conversion feature to convert the video output of the disc to match your TV system. The conversions supported are as below:

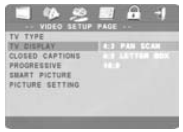
Disc		Output format		
Type	Format	Selected mode		
		NTSC	PAL	MULTI
DVD	NTSC	NTSC	PAL	NTSC
	PAL	NTSC	PAL	PAL
VCD	NTSC	NTSC	PAL	NTSC
	PAL	NTSC	PAL	PAL

Notes:
ñ If you choose MULTI, please ensure that your TV set has both the NTSC and PAL systems.

TV Display



Select the aspect ratio of the TV to be connected.
16:9 when you connect a wide-screen TV to the DVD player.
4:3 LETTERBOX when you connect a normal TV to the DVD player. Displays a wide picture with bands displayed on the upper and lower portions of the TV screen.
4:3 PAN SCAN when you connect a normal TV to the DVD player. Displays the wide picture on the whole TV screen with a portion automatically cut off.



Setup the item as follows,
1 Press the 3 4 keys to highlight the TV DISPLAY option in the VIDEO SETUP menu.
2 Enter its submenu by pressing the 2 key.
3 Move the cursor by pressing the 34 keys to highlight the selected item.
4 Press OK.
5 Press 1 key to return to the top menu, or press SYSTEM MENU to remove the menus.

Note : PanScan output is not available on all discs.

Progressive Scan

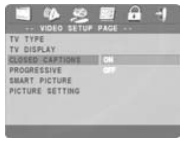
If you conncected the Player to a TV using the Y Pb Pr jacks and your TV has Progressive Scan, set PROGRESSIVE to ON. Otherwise, set PROGRESSIVE to OFF.

1 Press SYSTEM MENU.
2 Press 2 to select the VIDEO SETUP PAGE icon at the top of the menu. Press OK or 4 .
3 Press 4 to select PROGRESSIVE. Press 2 .
4 Press 3 or 4 to select ON or OFF, then press OK. Choose ON only if your TV has Progressive Scan.
5 If you choose ON, a message will ask you to verify your hookups and the availability of Progressive Scan. Press 2 or 1 to choose OK, then press OK on the remote.
If Progressive Scan is not detected, the VIDEO SETUP PAGE will reappear over ten seconds. Set PROGRESSIVE to OFF.
Or, if you realize you do not have Progressive Scan, choose CANCEL and press OK. Set PROGRESSIVE to OFF.
6 Press 1 key to return to the top menu, or press SYSTEM MENU to remove the menus.

Note:
- If the Y Pb Pr input of your TV set canít switch between progressive scan and interlaced scan automatically, we suggest you follow the steps below:
1. After connect DVD player and TV set by CVBS cable (yellow), please also use the component cables (no supplied) to connect the DVD player to the connector of progressive scan (Y Pb Pr) in TV set.
2. Activate progressive scan function under the description of Progressive Scan in the chapter SYSTEM SETUP.
3. At this time, as the TV set canít receive the progressive video signals from the CVBS input any more, please quickly setup the TV set into progressive mode. (please refer to the TV set manuals for operations.)
4. A Helpful Hint menu will be displayed and prompt you to confirm. Press 2 or 1 to choose OK, then press OK on the remote. The progressive scan function will be activated.
- You can deactivate Progressive Scan, so you can use a different hookup. For example, you may want to change TVs later.
To cancel Progressive Scan at the DVD Player,
1 Release or open the disc compartment lid.
2 Press 1 on the remote,
3 Then press MUTE.

Closed Captions

Closed captions are hidden in the video signal of some Discs. Different than subtitles, closed captions are intended for the hearing impaired and also show sound effects. For example, closed captions may include information such as ì phone ringingî or ì footsteps approachingî while a subtitle would only show spoken text.
Though you can turn on Closed Captions in the DVD Playerís menu, the captions must be available on the Disc. Also make sure you turn on Closed Captioning on your TV. Otherwise, the captions will not appear.



1 Press 3 4 to select CLOSED CAPTIONS.
2 Press 2 to enter its submenu.
3 Press 3 or 4 to select ON or OFF, then press OK. Your selection will be highlighted in brown.
4 Press 1 key to return to the top menu, or press SYSTEM MENU to remove the menus.

Smart Picture

In this menu, you can choose a picture setting from a fixed set of ideal predefined picture settings.

1. Press the 34 keys to highlight SMART PICTURE in the VIDEO SETUP menu.
2. Press the 2 key to highlight the item of the submenu.
3. Press the 34 keys to choose an item.
   STANDARD: select a standard picture setting.
   BRIGHT: make the TV picture brighter.
   SOFT: make the TV picture softer.
   PERSONAL: achieve the color effect set in the PICTURE SETTING menu.
4. Press OK.
5. Press 1 key to return to the top menu, or press SYSTEM MENU to remove the menus.

Picture Setting

In this menu you can personalize the picture color by adjusting brightness, contrast, tint and color.

1. Press the 34 keys to highlight PICTURE SETTING in the VIDEO SETUP menu.
2. Press OK to open its submenu.

Brightness/Contrast/Tint/Color

1. Press the 3 4 keys to highlight BRIGHTNESS, CONTRAST, TINT or COLOR.
2. Press the 2 key.
   An adjustment scale will appear on the TV screen.

3. Press the 2 1 keys to adjust the element you selected.
   For BRIGHTNESS, choosing a more positive value brightens the color on the screen and seems to add white to the picture. Choosing a more negative value darkens the colors in the picture. Choose zero (0) for the average setting.
   For CONTRAST, choosing a more positive value adds more noticeable difference between the black and white in your picture and sharpens the picture. Choose a more negative CONTRAST value to blur the distinction between black and white in the picture. The picture will not seem as sharp.
   For TINT, choose a more positive value to add red to the picture. Choose a negative value to add yellow to the picture. Choose zero (0) to balance the reds and yellows in the picture. You can adjust TINT when you need peopleís skin tones to look more natural.
   For COLOR, choose a more positive value to increase the color in your picture. To decrease the color in the picture, choose a more negative value. As you decrease the COLOR, the picture becomes more black and white. Choose zero (0) to balance the color.
4. Press OK key to save the setting and return to the PICTURE SETTING SETUP menu.

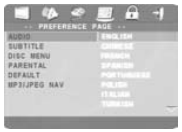
Preference Setup menu

There are options included in PREFERENCE menu such as AUDIO, SUBTITLE, DISC MENU, PARENTAL, PASSWORD, DEFAULT and MP3/JPEG NAV.

1. Press the ***STOP*** key twice to stop Disc play completely.
2. Press ***SYSTEM MENU*** to enter the menu.
3. Press 2 to highlight the ***PREFERENCE PAGE*** icon at the top of the menu.
4. Press ***OK*** or 4 .

Audio language

DVD discs are recorded in multiple audio languages. Choose the language you want to hear by adjusting AUDIO.

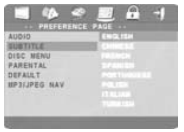


1. Press the 34 keys to highlight AUDIO.
2. Enter the submenu by pressing the 2 key.
3. Move the cursor by pressing the 34 keys to highlight the selected option.
4. Press OK.
5. Press 1 key to return to the top menu, or press SYSTEM MENU to remove the menus.

NOTE:Your DVD disc may not include the audio language which you set in the AUDIO menu. If so, the player will use another audio language instead.

Subtitle language

Some DVDs include subtitles, which you can choose under SUBTITLE in the PREFERENCE PAGE.

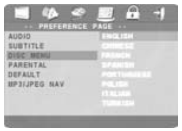


1. Press the 34 keys to highlight SUBTITLE.
2. Enter the submenu by pressing the 2 key.
3. Move the cursor by pressing the 34 keys to highlight the selected option.
4. Press OK.
5. Press 1 key to return to the top menu, or press SYSTEM MENU to remove the menus.

NOTE:Your DVD disc may not include the subtitle which you set in the SUBTITLE menu. If so, the player will use another subtitle language instead.

Disc Menu language

DVDs have a Disc menu that lets you select features. Disc menus may be available in multiple languages. To choose a language, follow these steps.



1 Press the 34 keys to highlight DISC MENU.
2 Enter the submenu by pressing the 2 key.
3 Move the cursor by pressing the 34 keys to highlight the selected item.
4 Press OK.
5 Press 1 key to return to the top menu, or press SYSTEM MENU to remove the menus.

NOTE: If your DVD disc doesnít include the disc menu language you have set, the player will use another recorded language instead.

If you choose OTHERS in AUDIO, SUBTITLE or DISC MENU menu,

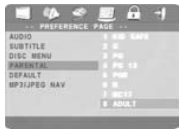
You can select other languages. Please do as follows,

1 Move the cursor by pressing the 34 keys to highlight OTHERS.
2 Press OK.
The DVD player will prompt you to enter a language code (Four digits).
3 Input a language code by pressing numerical keys.
Please look up the language code in the chapter LANGUAGE CODE.
4 Press OK.

Parental Control DVD

Movies on DVDs may contain scenes which are not suitable for children. Therefore, discs may contain "Parental Control" information which applies to the complete disc or to certain scenes on the disc. These scenes are rated from 1 to 8, and alternative, more suitable scenes are available on the disc. Ratings are country dependent. The "Parental Control" feature allows you to prevent discs from being played by your children or to have certain discs played with alternative scenes.

- VCD, SVCD, CD have no level indication, so parental control function has no effect on those kinds of discs. This applies to most illegal DVD discs.
- You can follow the steps below to setup the parental control:



1 Press the 34 keys to highlight PARENTAL.
2 Move to its submenu by pressing the 2 key.
3 Then use the 3 /4 keys to highlight a rating for the disc inserted.
4 Press OK.
5 Press 1 key to return to the top menu, or press SYSTEM MENU to remove the menus.

No Parental Control

Parental Control is not activated. The Disc will be played in full.

1 Select ADULT item.
2 Press OK.

Ratings 1 to 7:

Some discs contain scenes which are not suitable for children. All scenes with a rating higher than you set will be skipped during playback. However if the disc contains alternate scenes, these will play automatically. If not, the playback will stop and the six digits code will need to be entered again.

Default Setup

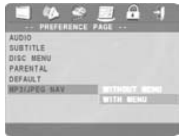
If problems occur while setting up the DVD player, the DEFAULT function can be used to reset all options to the factory defaults and all your personal settings will be erased.

1 Press 34 to highlight DEFAULT.
2 Highlight RESET by pressing the 2 key.
3 Press OK.
4 Press 1 key to return to the top menu, or press SYSTEM MENU to remove the menus.

CAUTION: When this function is activated, all setups will be reset to factory defaults.

MP3/JPEG Navigator

This menu allows you to select alternate settings when you playback picture CD and MP3 CD.



1 Press 3 4 to highlight MP3/JPEG NAV.
2 Press 2 to enter the submenu.
3 Press 3 4 to highlight WITHOUT MENU or WITH MENU.
WITHOUT MENU: playback MP3 CD in sequence automatically.
WITH MENU: playback Jpeg pictures or MP3 music in the selected folder.
4 Press OK key to confirm your selection.
5 Press 1 key to return to the top menu, or press SYSTEM MENU to remove the menus.

Password

This item is used for the parental control and disc lock. Enter your six digit password when a hint is displayed on the screen.

1 Press ***SYSTEM MENU*** to enter the menu.
2 Press 2 to highlight the ***PASSWORD SETUP PAGE*** icon at the top of the menu. Press ***OK*** or 4 .
3 ***PASSWORD*** will be highlighted. Press 2 to highlight ***CHANGE***, then press ***OK***.

4 Press the numerical keys to enter the current six-digit password. (If this is the first time you have set a password, you do not have to enter an OLD PASSWORD. The numbers you enter will go into the NEW PASSWORD box instead.)

5 If successful, the player will prompt for a new six-digit password in the NEW PASSWORD box.
6 After that, enter the new password again to reconfirm in the CONFIRM PWD box.
7 Press OK to save the new password. The previous menu will appear.
8 Press SYSTEM MENU to remove the menus.

NOTE:
1. You can change the setup of parental control and load a locked disc with a valid password being entered.
2. If you forget your password, you can enter the default password 842100.

Specifications

PLAYBACK SYSTEM

DVD Video
Video CD & SVCD
CD
PICTURE CD
MP3-CD
CD-R, CD-RW
DVD+R, DVD+RW

VIDEO PERFORMANCE

* CVBS	1Vpp --- 75
*Component video	Y: 1.00Vpp --- 75
	Pr: 0.7Vpp --- 75
	Pb: 0.7Vpp --- 75

AUDIO FORMAT

Digital	Mpeg/ AC-3/ DTS	compressed Digital
	PCM	16, 20, 24 bits fs, 44.1, 48, 96 kHz
	MP3(ISO 9660)	24, 32, 56, 64, 96, 128, 256 kbps & variable bit rate fs, 16, 22.05, 24, 32, 44.1, 48 kHz

Analog Sound Stereo

Specifications subject to change without prior notice

AUDIO PERFORMANCE

DA Converter	24bit	
Signal-Noise (1KHz)	100dB	
Dynamic range(1KHz)	>90dB	
DVD	fs 96 kHz	4Hz- 44kHz
	fs 48 kHz	4Hz- 22kHz
SVCD	fs 48 kHz	4Hz- 22kHz
	fs 44.1kHz	4Hz- 20kHz
CD/VCD	fs 44.1kHz	4Hz- 20kHz

TV STANDARD (PAL/50Hz) (NTSC/60Hz)

Number of lines	625	525
Playback	Multistandard	(PAL/NTSC)

CONNECTIONS

Component Video Output	Cinch
Video Output	Cinch
Audio Output(L+R)	Cinch
Digital Output	1 coaxial
	IEC958 for CDDA / LPCM
	IEC1937 for MPEG1, MPEG 2, Dolby Digital and DTS

CABINET

Dimensions (w x d x h)	216 x 216x 45 mm
Weight	Approximately 0.8 Kg

POWER CONSUMPTION

Power consumption	< 8 W
Power consumption in Standby mode	< 1.2W

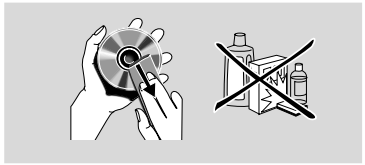
Maintenance

Cleaning the Disc Compartment

Always close the CD door to keep the CD compartment dust-free. To clean, dust the compartment with a soft dry cloth. Do not use a solution containing alcohol, spirits, ammonia or abrasives.

Cleaning Discs

When a disc becomes dirty, clean it with a cleaning cloth. Wipe the disc from the center out. Do not wipe in a circular motion.
Do not use solvents such as benzine, thinner, commercially available cleaners, or antistatic spray intended for analog records.



Cleaning the disc lens

After prolonged use, dirt or dust may accumulate at the disc lens. To ensure good playback quality, clean the disc lens with Philips CD Lens Cleaner or any commercially available cleaner. Follow the instructions supplied with cleaner.

Troubleshooting

WARNING
Under no circumstances should you try to repair the system yourself, as this will invalidate the warranty. Do not open the system as there is a risk of electric shock.

If a fault occurs, first check the points listed below before taking the system for repair. If you are unable to remedy a problem by following these hints, consult your dealer or service center.

Problem	Solution
No power	ñ Check if the AC power cord is properly connected.
No picture	ñ Check if the TV is switched on. ñ Check the video connection. ñ Set your TV to the correct Video In channel. ñ If you have activated Progressive Scan function, make sure that your TV set also has Progressive Scan and the Y/Pb/Pr cables are correctly connected.
Distorted picture	ñ The disc is badly scratched or dirty. ñ Sometimes a small amount of picture distortion may appear .This is normal.
Completely distorted picture or black/white picture with DVD or Video CD	ñ Make sure the NTSC/PAL setting at the DVD player matches the video signal of your television. (See NTSC/PAL CONVERSION) ñ If the picture becomes distorted after switching among PAL and NTSC, please set the SMART PICTURE to STANDARD.
No sound or distorted sound	ñ Adjust the volume. ñ Check that the speakers are connected correctly. ñ If the Disc sounds abnormal, set SOUND MODE or 3D SOUND appropriately.
No audio at digital output	ñ Check the digital connections. ñ Check if your receiver can decode MPEG-2 or DTS and if not, please make sure the digital output is set to PCM. ñ Check if the audio format of the selected audio language matches your receiver capabilities. ñ Do not connect any cables from the Player to a Stereoís ìPHONO INî jack. ñ Deactivate mute at the DVD Player by pressing MUTE on the Playerís remote.
Disc canít be played	ñ The DVD+R/DVD+RW/CD-R must be finalized. ñ Ensure the disc label is facing up. ñ Check the Parental controls. ñ Check the Region Code of the DVD. The DVD must be coded for All regions or Region 3 in order to play on this DVD Player. ñ Check if the disc is defective by trying another disc. – If you record a Picture CD or MP3 CD yourself, ensure that your disc contains at least 10 pictures or 5 MP3 tracks.
No return to start-up screen after you remove a Disc.	ñ Reset the unit by switching the player off, then on again.
The player does not respond to the remote control	ñ Aim the remote control directly at the sensor on the front of the player. ñ Reduce the distance to the player. ñ Replace the lithium batteries in the remote control.

Troubleshooting

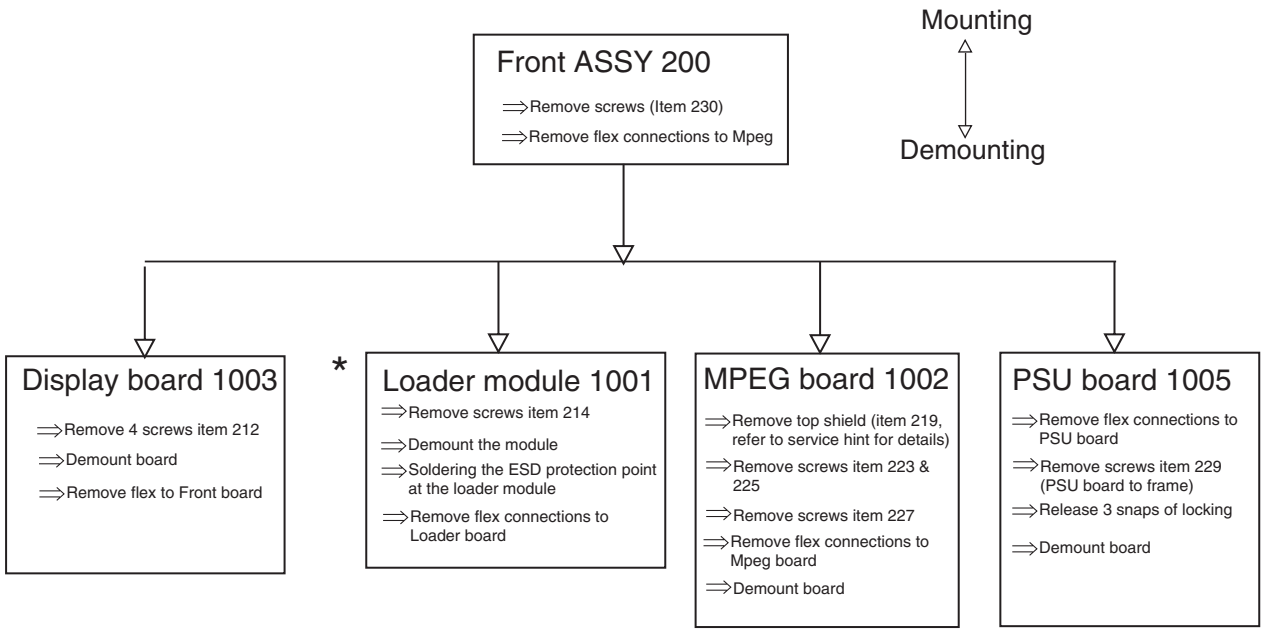
The Player does not work	ñ	disconnect the power cord from the power outlet for a few ninutes. Reconnect it and try to operate the Player again as usual.
Player does not respond to some operating commands during playback	ñ	Operations may not be permitted by the disc. Refer to the instructions of the disc.
DVD Video player cannot read CDs/DVDs	ñ	Use a commonly available cleaning CD/DVD to clean the lens before sending the DVD Video player for repair.
Any setup changes canít be stored.	ñ	Remove the Setup Menu after make the setup, and then press POWER key to switch into the Standby mode.

Personal Notes:

4 Dismantling instructions and exploded view

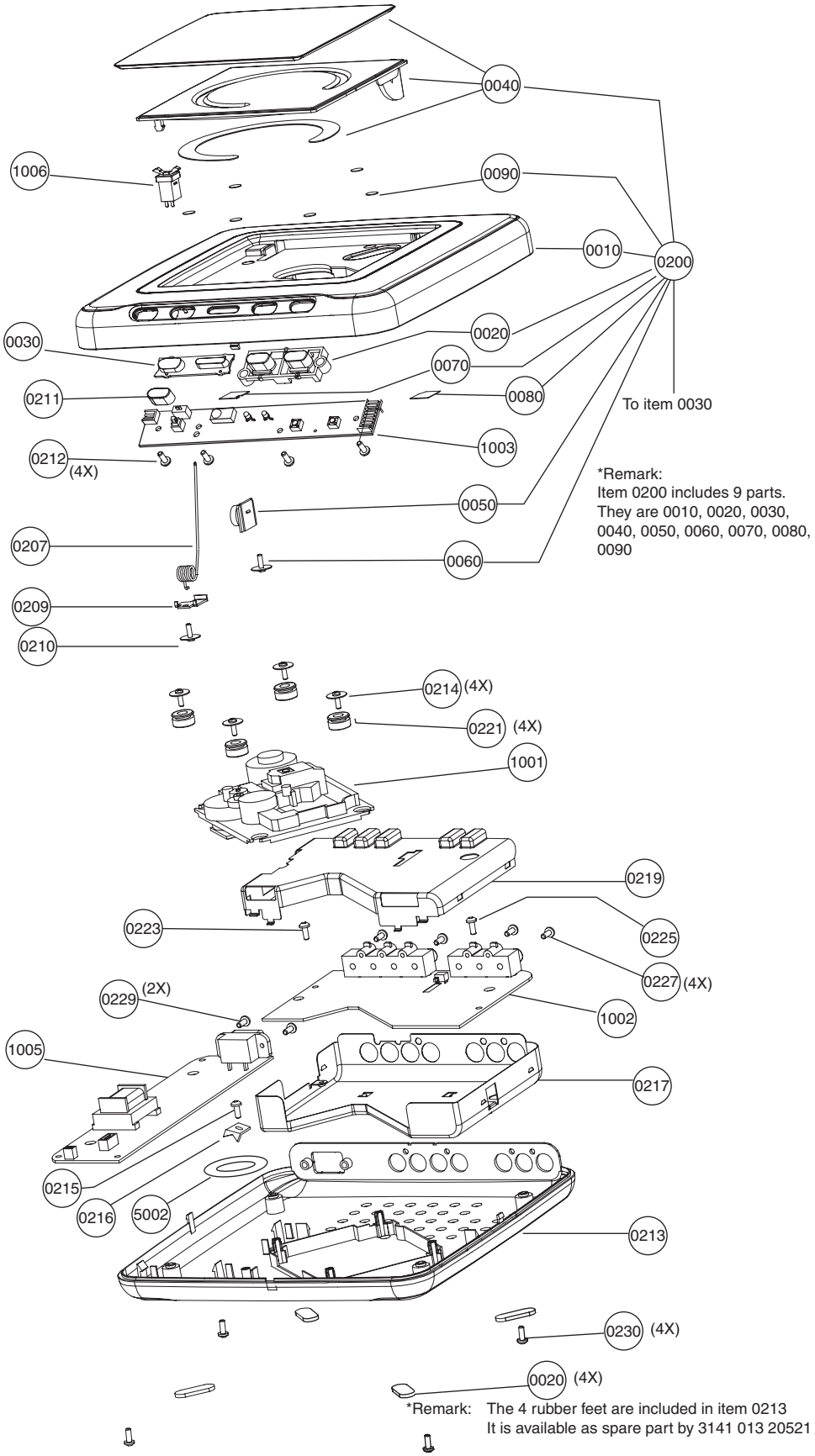
4.1 Dismantling instructions DVP320

See exploded view for item numbers


Mounting
Demounting
Front ASSY 200
⇒Remove screws (Item 230)
⇒Remove flex connections to Mpeg
Display board 1003
⇒Remove 4 screws item 212
⇒Demount board
⇒Remove flex to Front board
*
Loader module 1001
⇒Remove screws item 214
⇒Demount the module
⇒Soldering the ESD protection point at the loader module
⇒Remove flex connections to Loader board
MPEG board 1002
⇒Remove top shield (item 219, refer to service hint for details)
⇒Remove screws item 223 & 225
⇒Remove screws item 227
⇒Remove flex connections to Mpeg board
⇒Demount board
PSU board 1005
⇒Remove flex connections to PSU board
⇒Remove screws item 229 (PSU board to frame)
⇒Release 3 snaps of locking
⇒Demount board

*Note: Because DVD Loaders are very sensitive to ESD. During replace, must obey the procedure. Refer to service hints for details

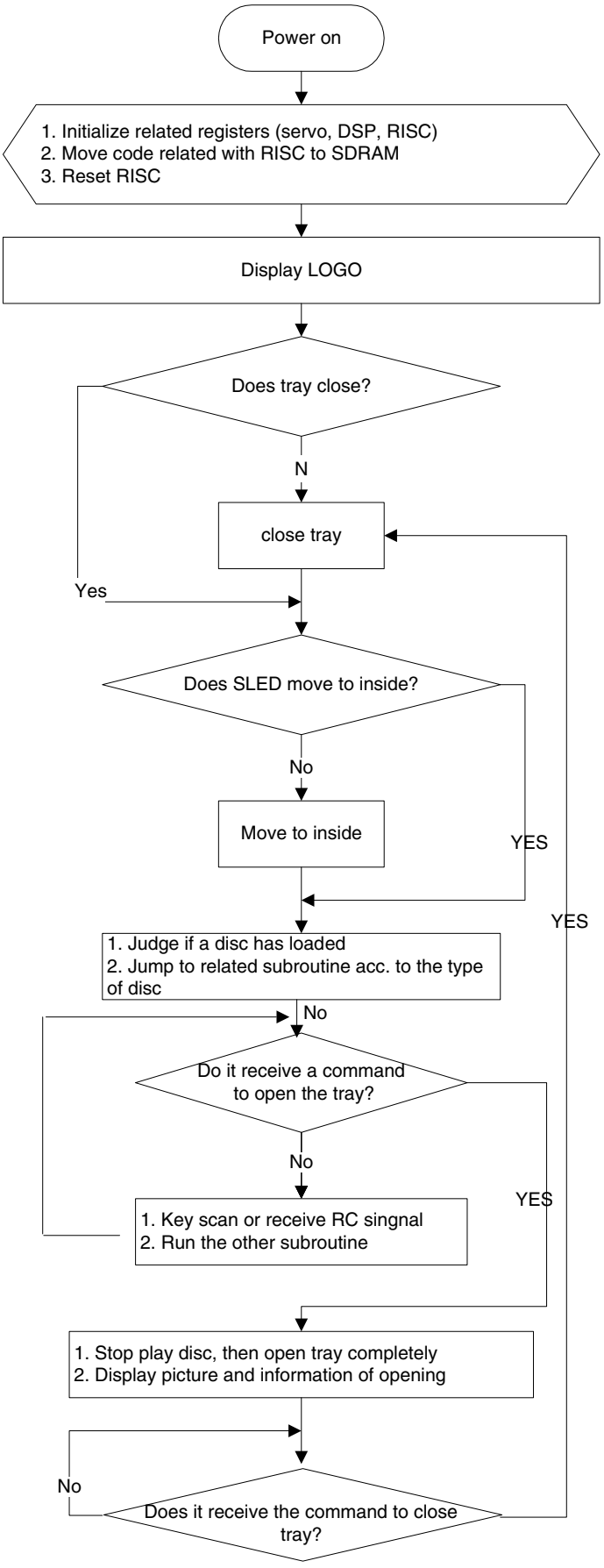
4.2 Explode View



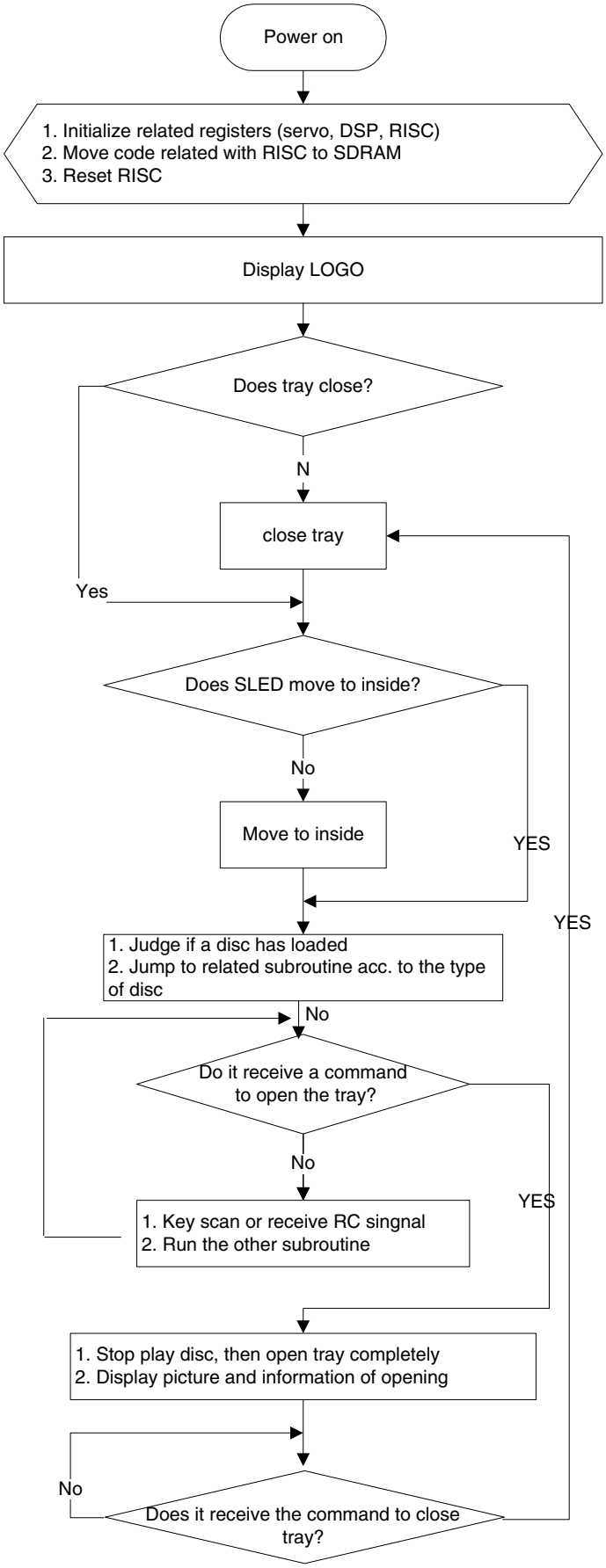
5. Diagnostic Software, Trouble Shooting and Test Instructions

Diagnostic Software reserved. It will be prepared later.

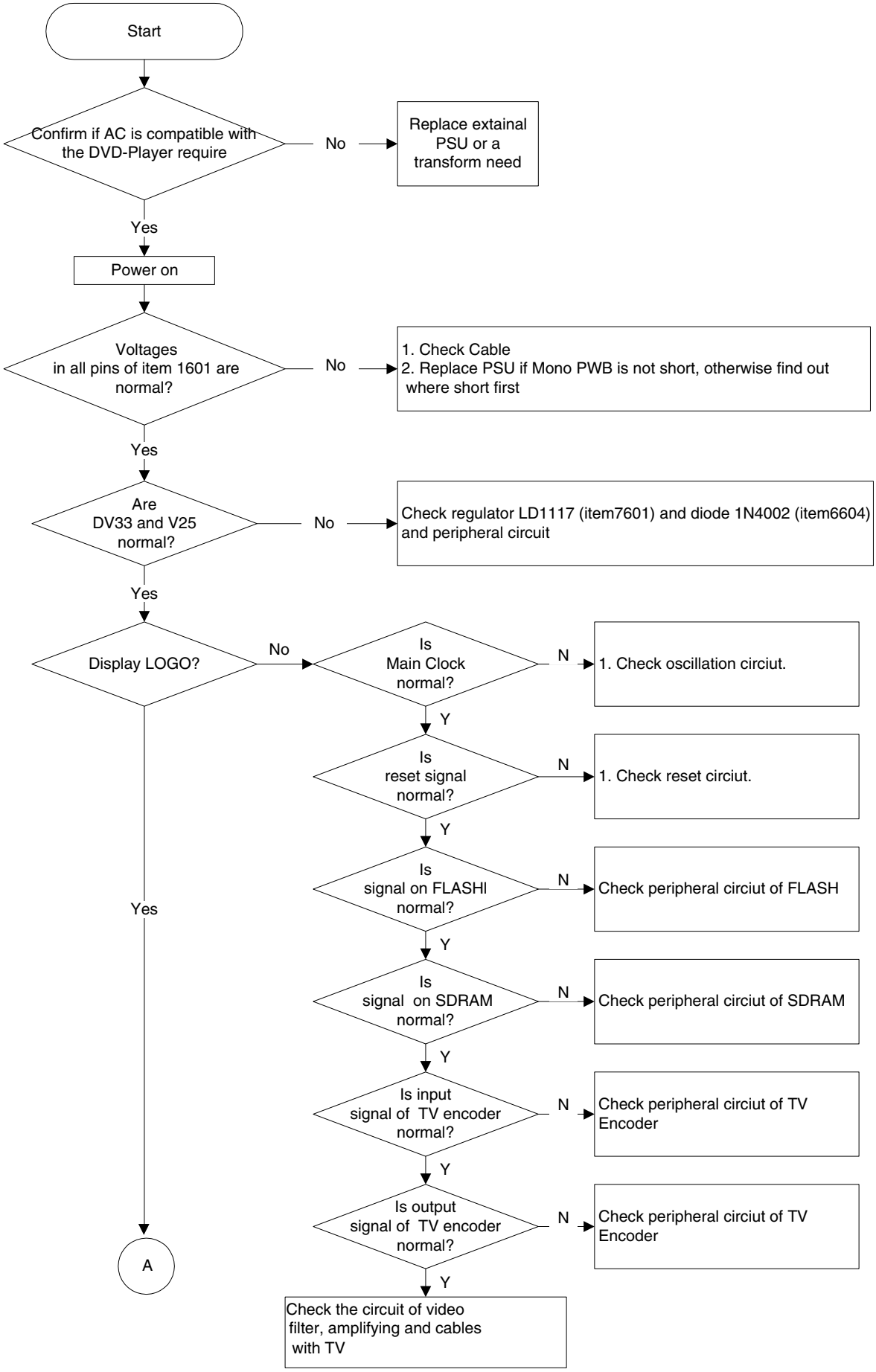
5.1 System working procedure for MediaTeK DVD-Player (MT1379 + MT1366)

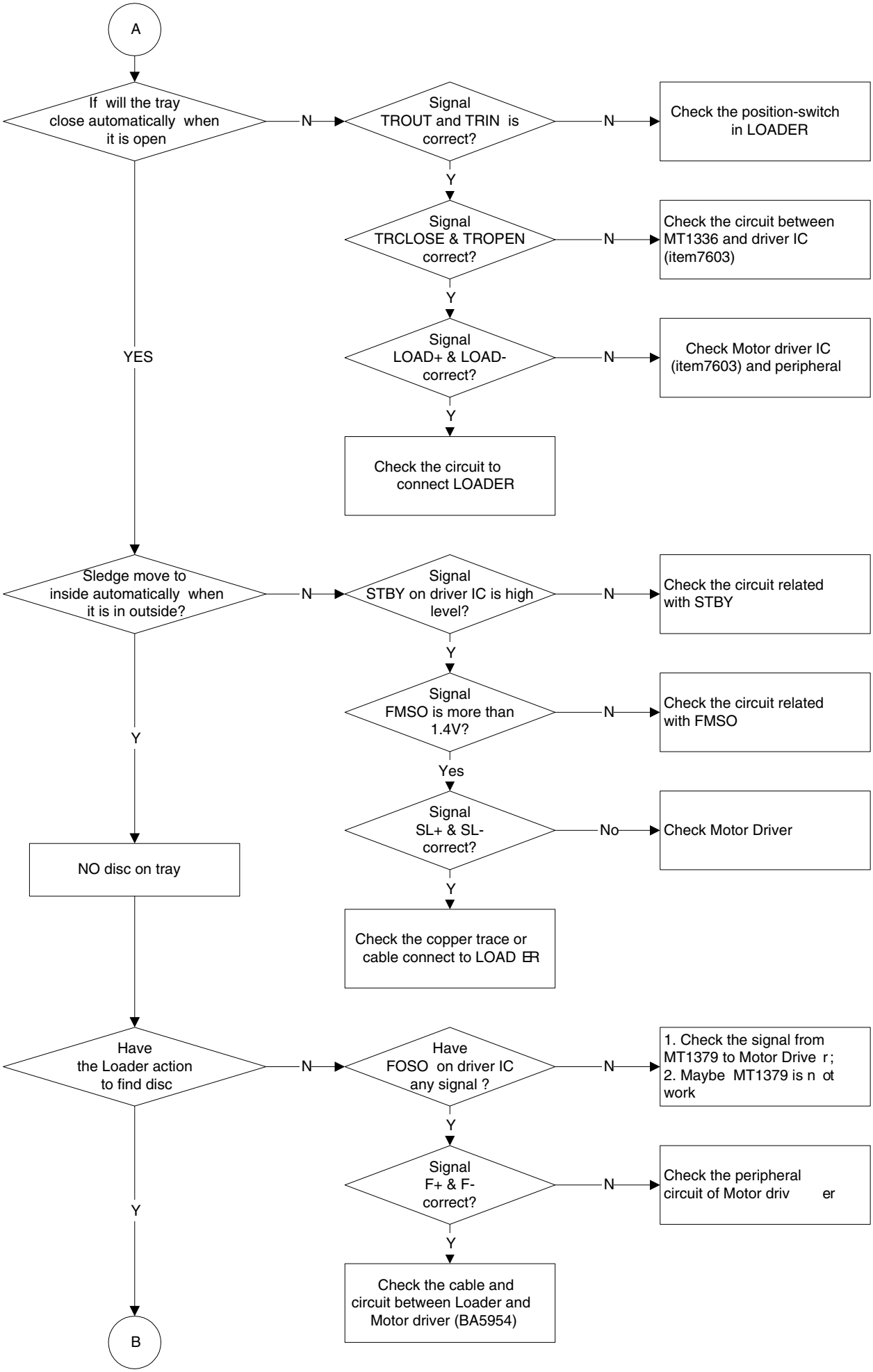

Power on
1. Initialize related registers (servo, DSP, RISC)
2. Move code related with RISC to SDRAM
3. Reset RISC
Display LOGO
Does tray close?
N
close tray
Yes
Does SLED move to inside?
No
Move to inside
YES
YES
1. Judge if a disc has loaded
2. Jump to related subroutine acc. to the type of disc
No
Do it receive a command to open the tray?
No
YES
1. Key scan or receive RC singnal
2. Run the other subroutine
1. Stop play disc, then open tray completely
2. Display picture and information of opening
No
Does it receive the command to close tray?

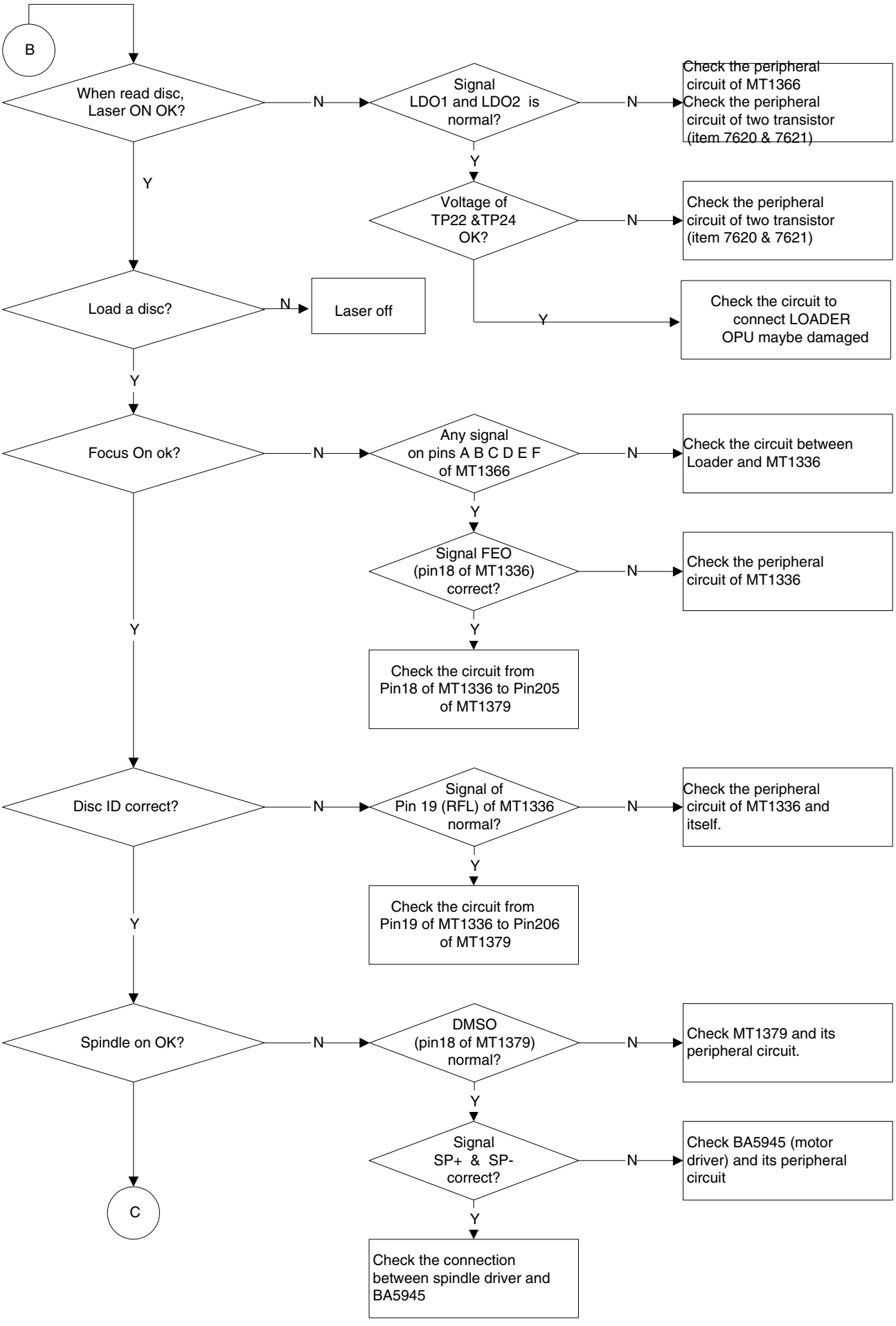
5.1 System working procedure for MediaTeK DVD-Player (MT1379 + MT1366)

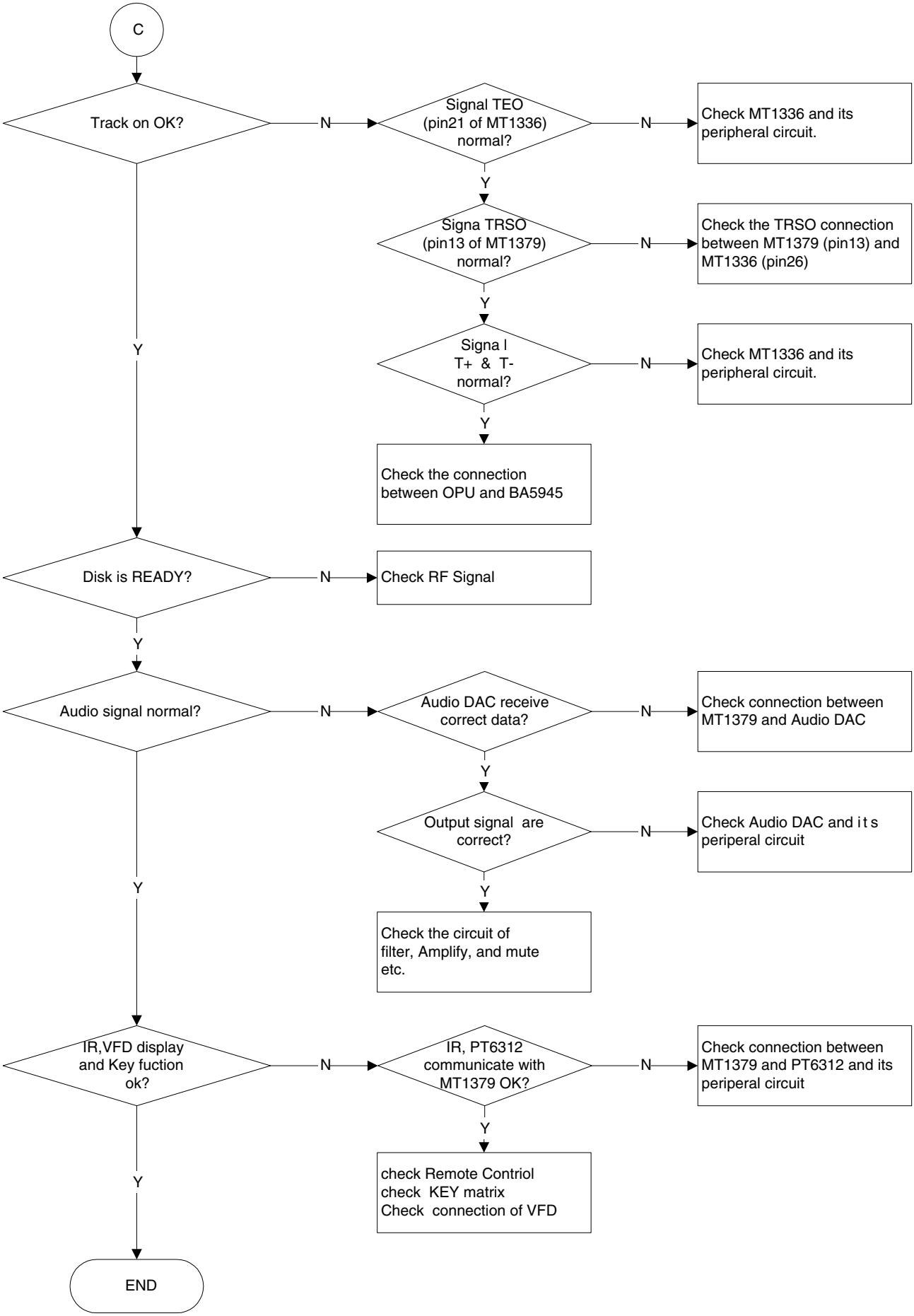

Power on
1. Initialize related registers (servo, DSP, RISC)
2. Move code related with RISC to SDRAM
3. Reset RISC
Display LOGO
Does tray close?
N
close tray
Yes
Does SLED move to inside?
No
Move to inside
YES
YES
1. Judge if a disc has loaded
2. Jump to related subroutine acc. to the type of disc
No
Do it receive a command to open the tray?
No
YES
1. Key scan or receive RC singnal
2. Run the other subroutine
1. Stop play disc, then open tray completely
2. Display picture and information of opening
No
Does it receive the command to close tray?

5.2 Maintenance Flow chart



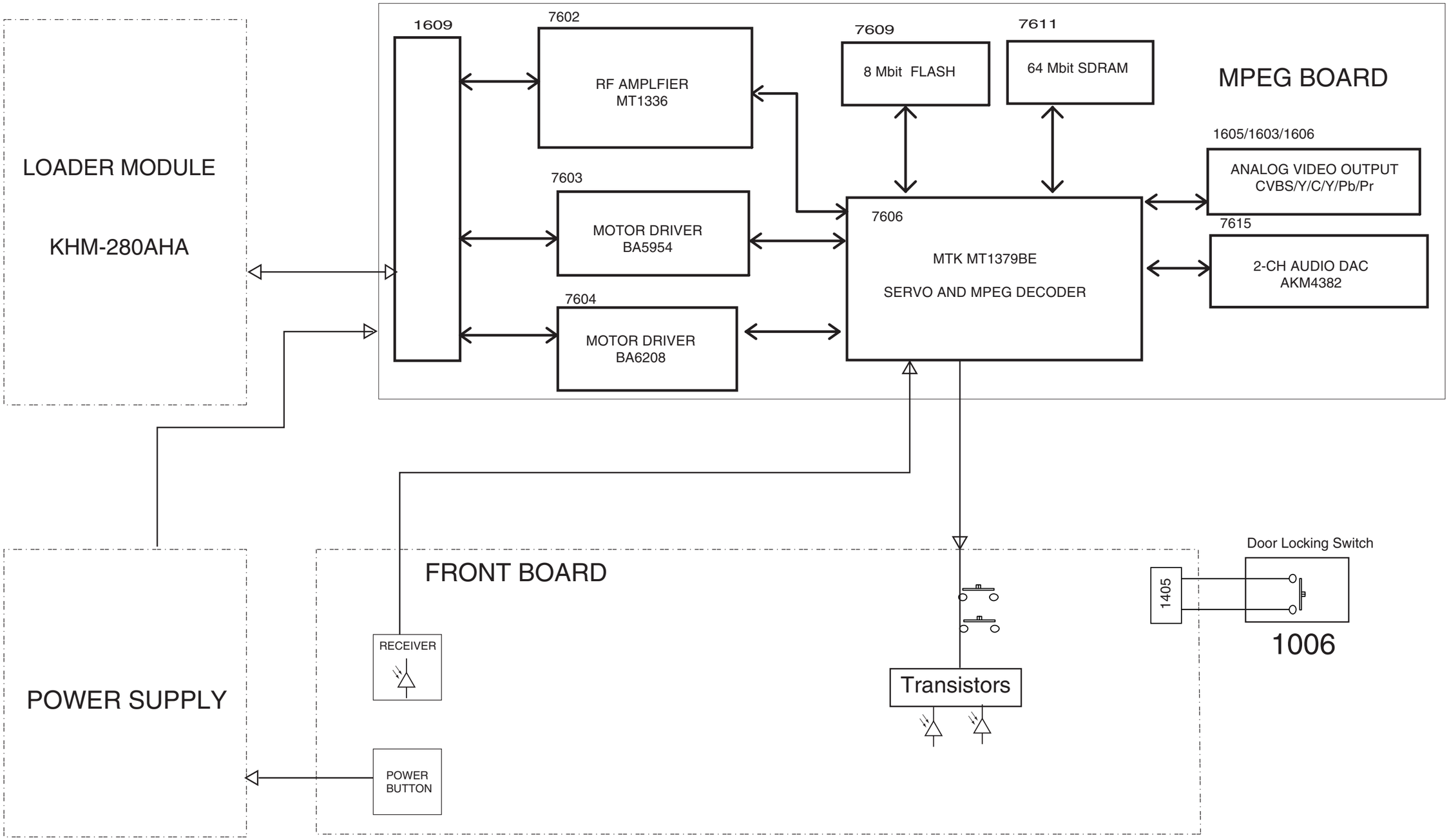

A
If will the tray close automatically when it is open
N
Signal TROUT and TRIN is correct?
N
Check the position-switch in LOADER
Y
Signal TRCLOSE & TROPEN correct?
N
Check the circuit between MT1336 and driver IC (item7603)
Y
Signal LOAD+ & LOAD- correct?
N
Check Motor driver IC (item7603) and peripheral
Y
Check the circuit to connect LOADER
YES
Sledge move to inside automatically when it is in outside?
N
Signal STBY on driver IC is high level?
N
Check the circuit related with STBY
Y
Signal FMSO is more than 1.4V?
N
Check the circuit related with FMSO
Y
Yes
Signal SL+ & SL- correct?
No
Check Motor Driver
NO disc on tray
Y
Check the copper trace or cable connect to LOADER
Have the Loader action to find disc
N
Have FOSO on driver IC any signal ?
N
1. Check the signal from MT1379 to Motor Drive r;
2. Maybe MT1379 is n ot work
Y
Signal F+ & F- correct?
N
Check the peripheral circuit of Motor driv er
Y
Y
Check the cable and circuit between Loader and Motor driver (BA5954)
B


B
When read disc, Laser ON OK?
N
Signal LDO1 and LDO2 is normal?
N
Check the peripheral circuit of MT1366
Check the peripheral circuit of two transistor (item 7620 & 7621)
Y
Y
Voltage of TP22 &TP24 OK?
N
Check the peripheral circuit of two transistor (item 7620 & 7621)
Load a disc?
N
Laser off
Y
Check the circuit to connect LOADER
OPU maybe damaged
Y
Focus On ok?
N
Any signal on pins A B C D E F of MT1366
N
Check the circuit between Loader and MT1336
Y
Signal FEO (pin18 of MT1336) correct?
N
Check the peripheral circuit of MT1336
Y
Y
Check the circuit from Pin18 of MT1336 to Pin205 of MT1379
Disc ID correct?
N
Signal of Pin 19 (RFL) of MT1336 normal?
N
Check the peripheral circuit of MT1336 and itself.
Y
Check the circuit from Pin19 of MT1336 to Pin206 of MT1379
Y
Spindle on OK?
N
DMSO (pin18 of MT1379) normal?
N
Check MT1379 and its peripheral circuit.
Y
Signal SP+ & SP- correct?
N
Check BA5945 (motor driver) and its peripheral circuit
Y
Check the connection between spindle driver and BA5945
C


C
Track on OK?
N
Signal TEO (pin21 of MT1336) normal?
N
Check MT1336 and its peripheral circuit.
Y
Signa TRSO (pin13 of MT1379) normal?
N
Check the TRSO connection between MT1379 (pin13) and MT1336 (pin26)
Y
Signa l T+ & T- normal?
N
Check MT1336 and its peripheral circuit.
Y
Check the connection between OPU and BA5945
Y
Disk is READY?
N
Check RF Signal
Y
Audio signal normal?
N
Audio DAC receive correct data?
N
Check connection between MT1379 and Audio DAC
Y
Output signal are correct?
N
Check Audio DAC and i t s periperal circuit
Y
Check the circuit of filter, Amplify, and mute etc.
Y
IR,VFD display and Key fuction ok?
N
IR, PT6312 communicate with MT1379 OK?
N
Check connection between MT1379 and PT6312 and its periperal circuit
Y
check Remote Contriol
check KEY matrix
Check connection of VFD
Y
END

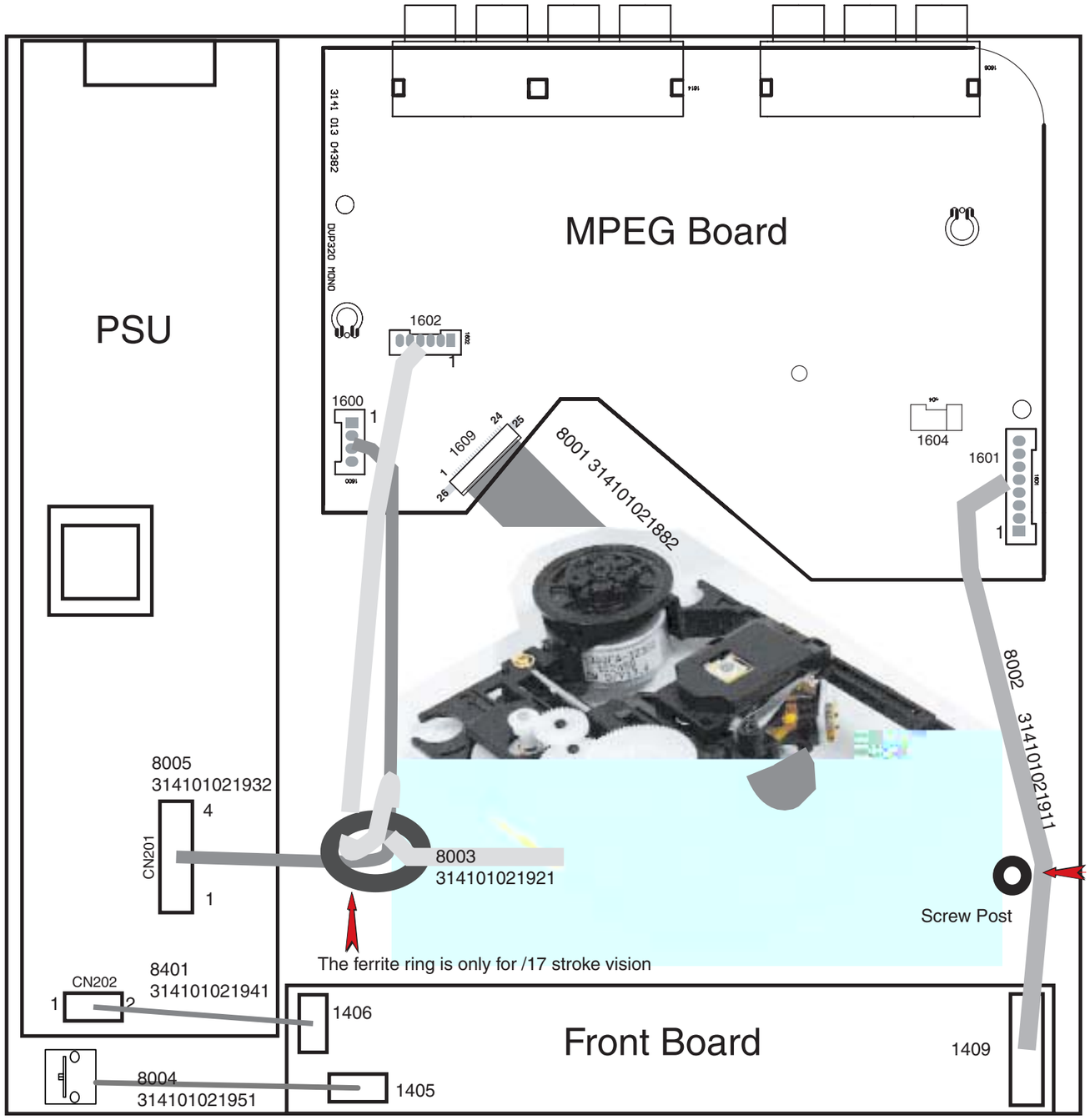
6 Block and wring diagram

6.1 BLock diagram DVP320



6 Block and wiring diagram

6.2 Wiring diagram DVP320



1600

1	VCC (5V)
2	GND
3	-12V
4	GND

1601

1	STBYLED
2	OPEN/CLOSE
3	RC
4	GND
5	VCC
6	STOP
7	PLAY
8	LED

1602

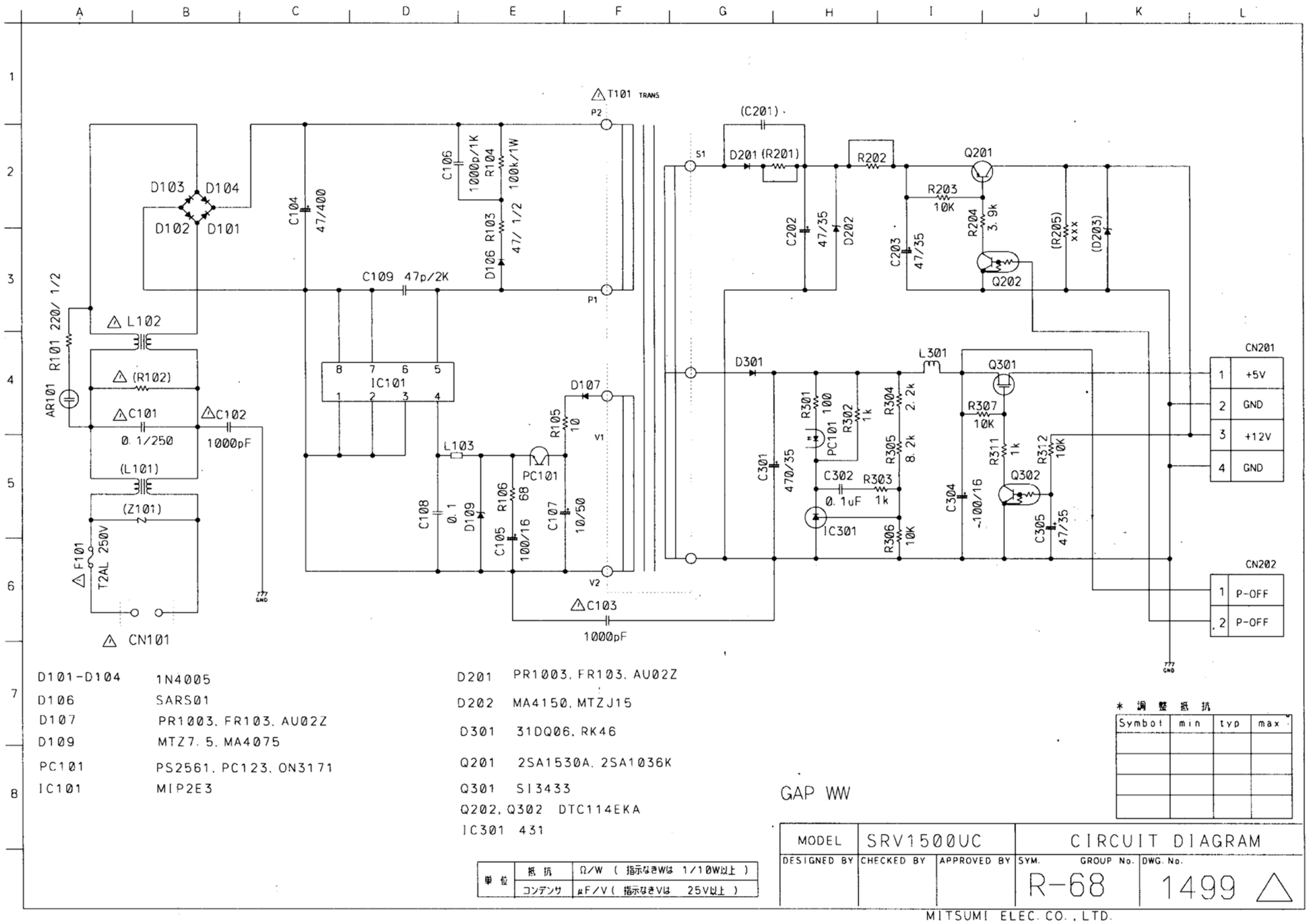
1	SP+
2	SP-
3	SL-
4	SL+
5	GND
6	LIMIT

1609

1	F-
2	F+
3	T+
4	T-
5	C
6	D
7	CD/DVD
8	RF
9	A
10	B
11	F
12	GND-PD
13	Vc
14	VCC
15	E
16	NC
17	VR-CD
18	VR-DVD
19	LD-CD
20	MD
21	HFM
22	NC
23	LD-DVD
24	GND-LD
25	GND
26	GND

Note:
The cable 8002 will be damaged by the screw if to lay it on the screw post during assembling bottom and top cabinet.

Electrical Diagrams PSU DVP320 (MITSUMI)



D101-D104	1N4005
D106	SARS01
D107	PR1003, FR103, AU02Z
D109	MTZ7.5, MA4075
PC101	PS2561, PC123, ON3171
IC101	MIP2E3

D201	PR1003, FR103, AU02Z
D202	MA4150, MTZJ15
D301	31DQ06, RK46
Q201	2SA1530A, 2SA1036K
Q301	SI3433
Q202, Q302	DTC114EKA
IC301	431

＊ 調 整 抵 抗

Symbol	min	typ	max

GAP WW

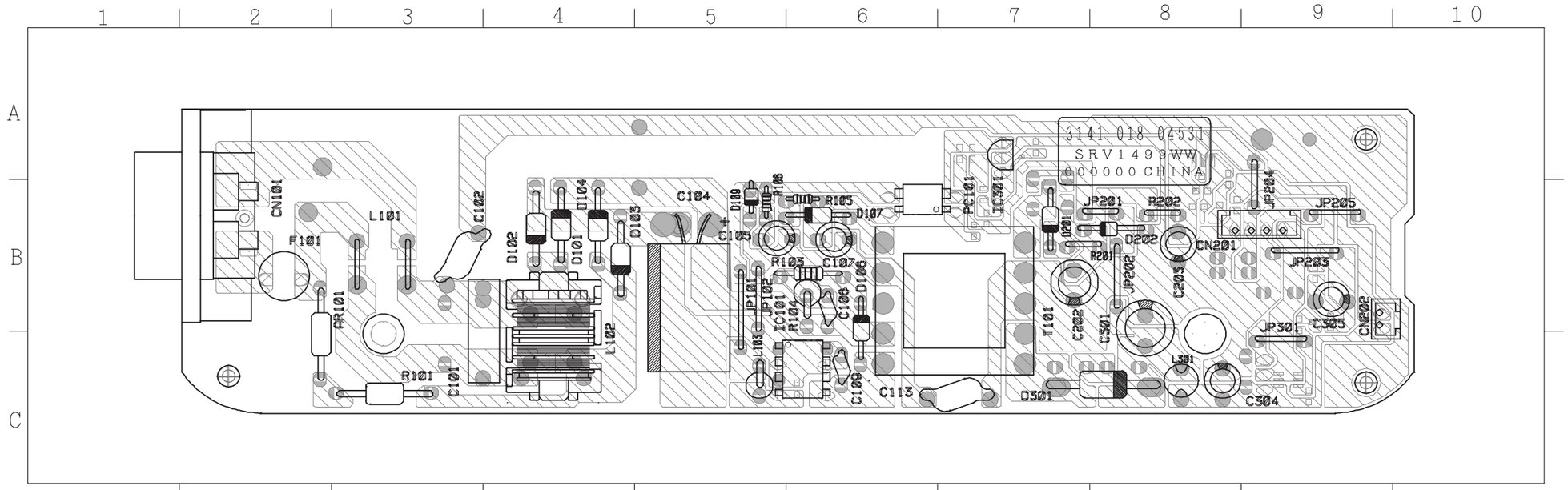
単位		
	抵 抗	Ω/W (指示なきWは 1/10W以上)
	コンデンサ	μF/V (指示なきVは 25V以上)

MODEL	SRV1500UC		CIRCUIT DIAGRAM	
DESIGNED BY	CHECKED BY	APPROVED BY	SYM. GROUP No.	DWG. No.
			R-68	1499 △

MITSUMI ELEC. CO., LTD.

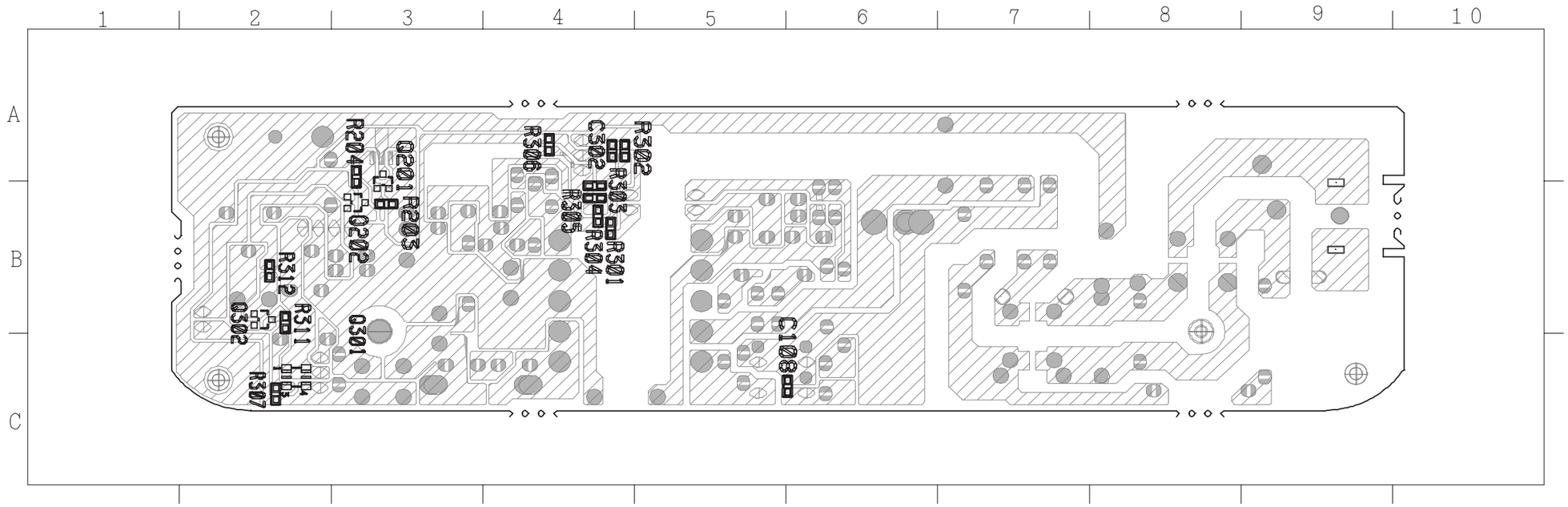
AR101	A4
C101	B4
C102	B4
C104	C2
C105	E5
C106	E2
C107	F5
C108	D5
C109	D3
C113	F6
C202	H3
C203	I3
C301	H5
C302	H5
C304	I5
C305	J5
CN101	B6
CN201	L4
CN202	L6
D101	B2
D102	B2
D103	B2
D104	B2
D106	E3
D107	F4
D109	E5
D201	G2
D202	H2
D301	G4
F101	A6
IC101	D4
IC301	H5
L102	B4
L103	E5
L301	I4
PC101	E5,H4
Q201	I2
Q202	J3
Q301	J4
Q302	J5
R101	A4
R103	E2
R104	E2
R105	F4
R106	E5
R203	I2
R204	I2
R301	H4
R302	H4
R303	I5
R304	I4
R305	I5
R306	I5
R307	I4
R311	J5
R312	J5
T101	F

Layout PSU MITSUMI DVP320
Components Side



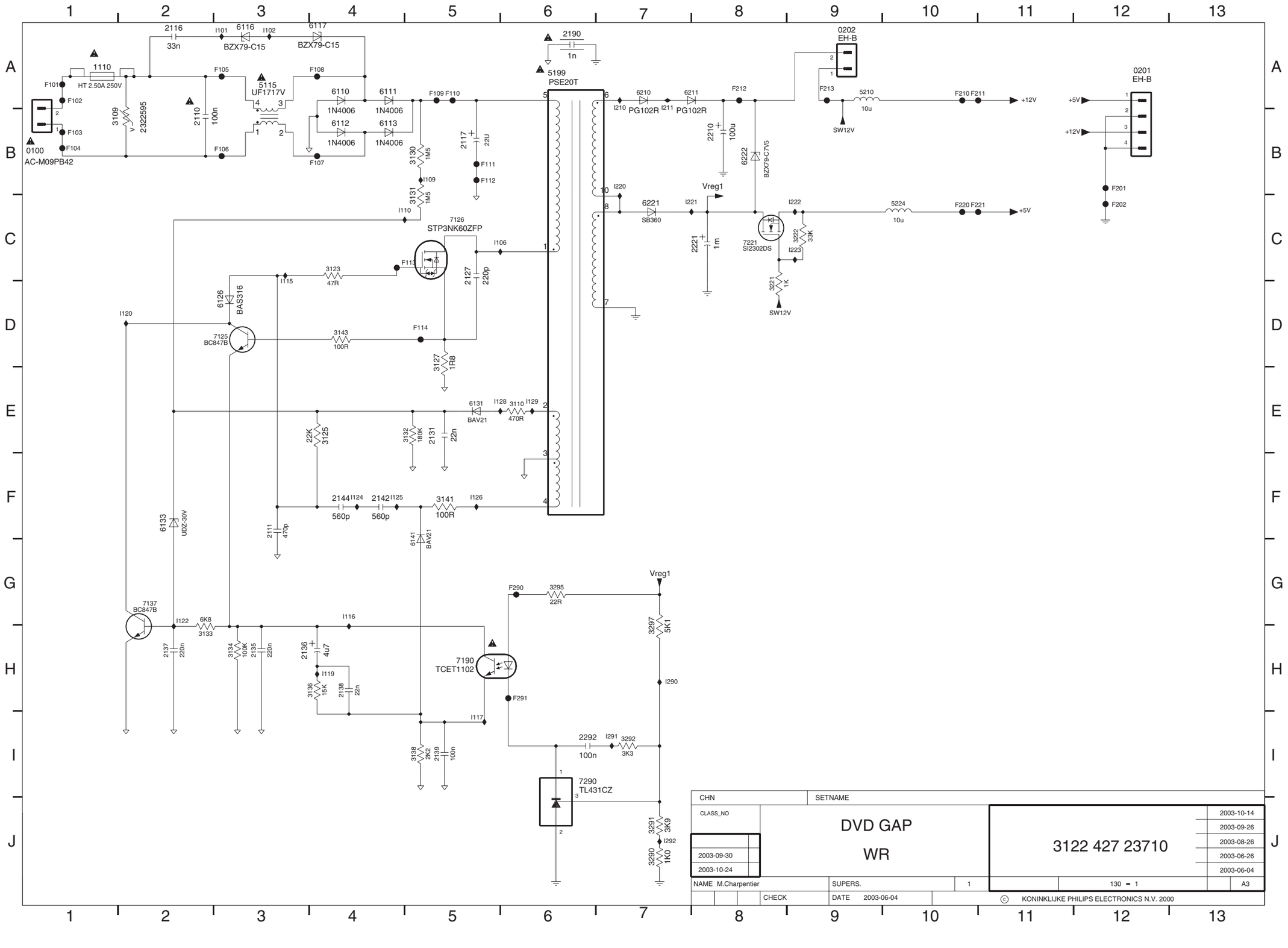
AR101	B2	IC101	C6
C101	B3	IC301	A7
C102	B2	L102	B4
C104	B5	L103	C5
C105	B5	L301	C8
C106	B6	PC101	B6
C107	B6	R101	C3
C109	C6	R103	B6
C113	C7	R104	B6
C202	B7	R105	B6
C203	B8	R106	B5
C301	B8	T101	B6
C304	C8		
C305	B9		
CN101	B2		
CN201	B9		
CN202	B9		
D101	B4		
D102	B4		
D103	B4		
D104	B4		
D106	B6		
D107	B6		
D109	B5		
D201	B7		
D202	B8		
D301	C8		
F101	B2		

Copper Side



C108	C6		
C302	A4		
R203	B3		
R204	A3		
R301	B4		
R302	A4		
R303	B4		
R304	B4		
R305	B4		
R306	A4		
R307	C2		
R311	B2		
R312	B2		
Q201	A3		
Q202	B3		
Q301	C2		
Q302	B2		

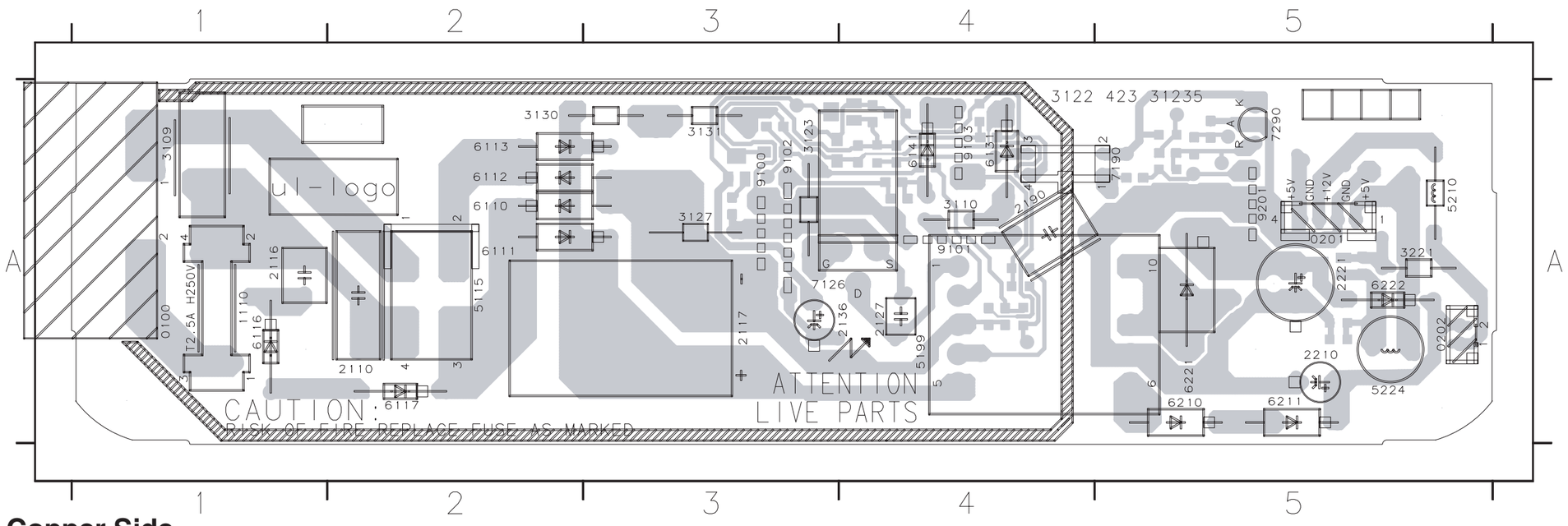
Electrical Diagrams PSU DVP320 (EPM 3122 429 00201)



CHN	SETNAME		
CLASS_NO	DVD GAP WR	3122 427 23710	2003-10-14
			2003-09-26
2003-09-30			2003-08-26
2003-10-24			2003-06-26
			2003-06-04
NAME M.Charpentier	SUPERS. 1	130 - 1	A3
CHECK	DATE 2003-06-04	© KONINKLIJKE PHILIPS ELECTRONICS N.V. 2000	

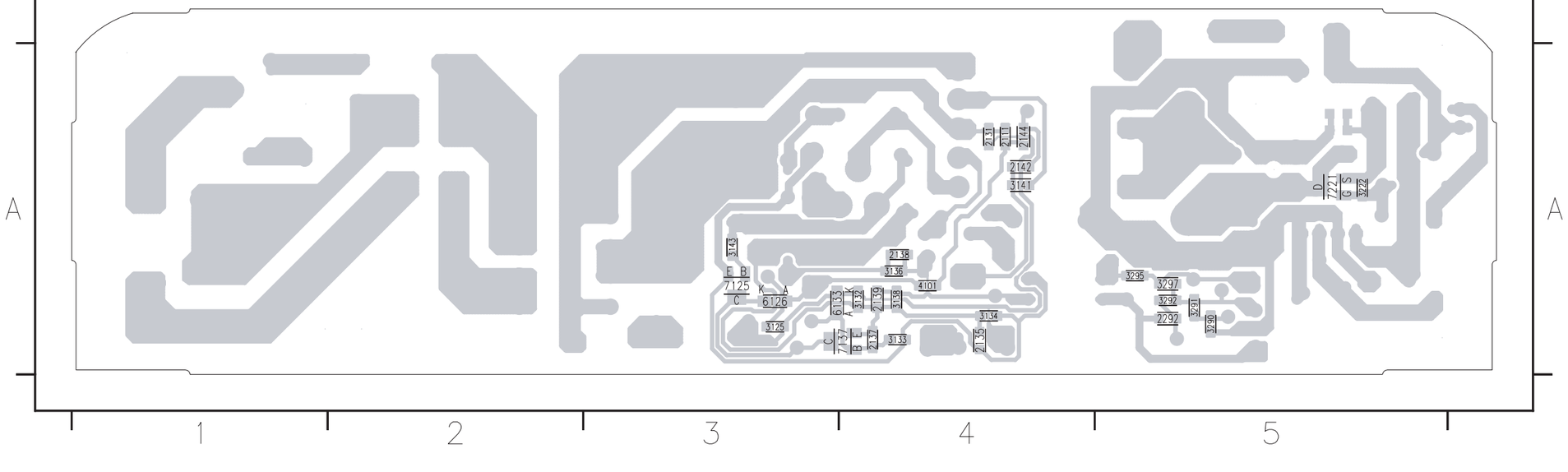
Layout PSU EPM DVP320
Components Side

0100 A1 2110 A2 2136 A4 2221 A5 3110 A4 3131 A3 5210 A5 6112 A2 6131 A4 6221 A5 7290 A5 9103 A4
0201 A5 2116 A1 2190 A4 2222 A5 3123 A3 3221 A5 5224 A5 6113 A2 6141 A4 6222 A5 9100 A3 9201 A5
0202 A5 2117 A3 2210 A5 2225 A5 3127 A3 5115 A2 6110 A2 6116 A1 6210 A5 7126 A3 9101 A4
1110 A1 2127 A4 2215 A5 3109 A1 3130 A2 5199 A4 6111 A2 6117 A2 6211 A5 7190 A5 9102 A3



Copper Side

2111 A4 2137 A4 2142 A4 3125 A3 3134 A4 3141 A4 3223 A5 3291 A5 3297 A5 6133 A3 7221 A5
2131 A4 2138 A4 2144 A4 3132 A4 3136 A4 3143 A3 3224 A5 3292 A5 4101 A4 7125 A3
2135 A4 2139 A4 2292 A5 3133 A4 3138 A4 3222 A5 3290 A5 3295 A5 6126 A3 7137 A4

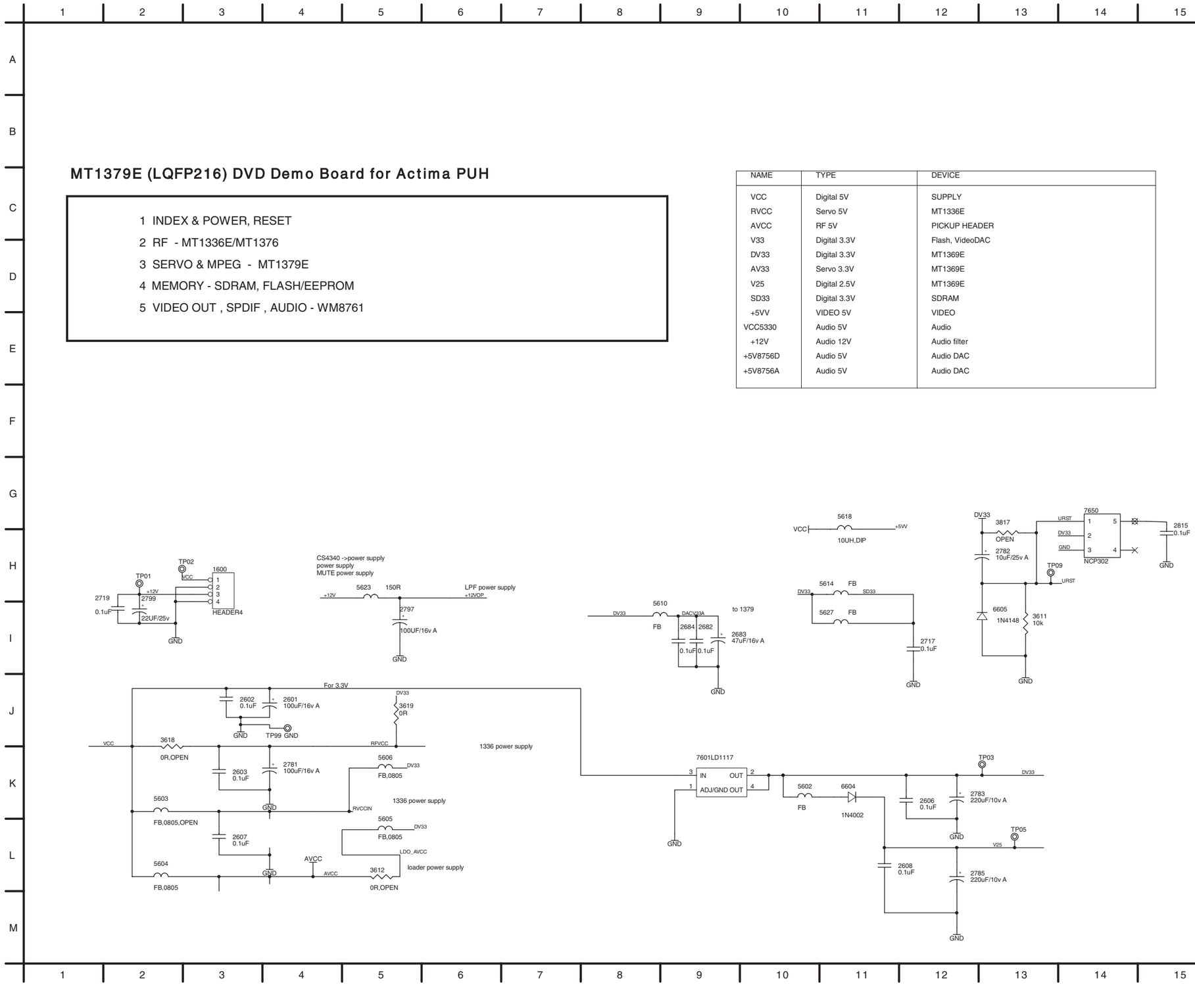


Electrical Diagrams MPEG DVP320
MPEG Board: INDEX

MT1379E (LQFP216) DVD Demo Board for Actima PUH

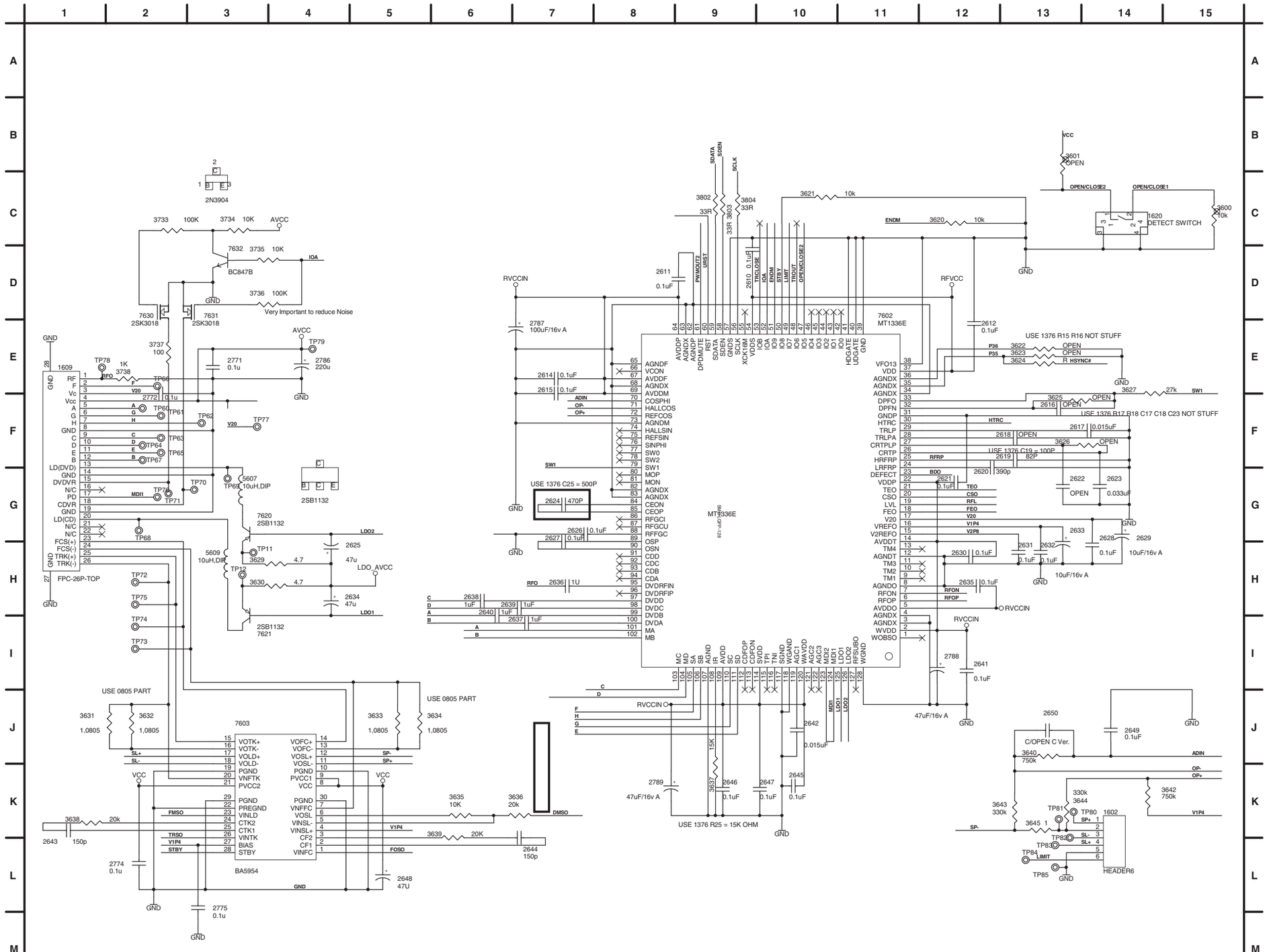
1 INDEX & POWER, RESET
2 RF - MT1336E/MT1376
3 SERVO & MPEG - MT1379E
4 MEMORY - SDRAM, FLASH/EEPROM
5 VIDEO OUT , SPDIF , AUDIO - WM8761

NAME	TYPE	DEVICE
VCC	Digital 5V	SUPPLY
RVCC	Servo 5V	MT1336E
AVCC	RF 5V	PICKUP HEADER
V33	Digital 3.3V	Flash, VideoDAC
DV33	Digital 3.3V	MT1369E
AV33	Servo 3.3V	MT1369E
V25	Digital 2.5V	MT1369E
SD33	Digital 3.3V	SDRAM
+5VV	VIDEO 5V	VIDEO
VCC5330	Audio 5V	Audio
+12V	Audio 12V	Audio filter
+5V8756D	Audio 5V	Audio DAC
+5V8756A	Audio 5V	Audio DAC



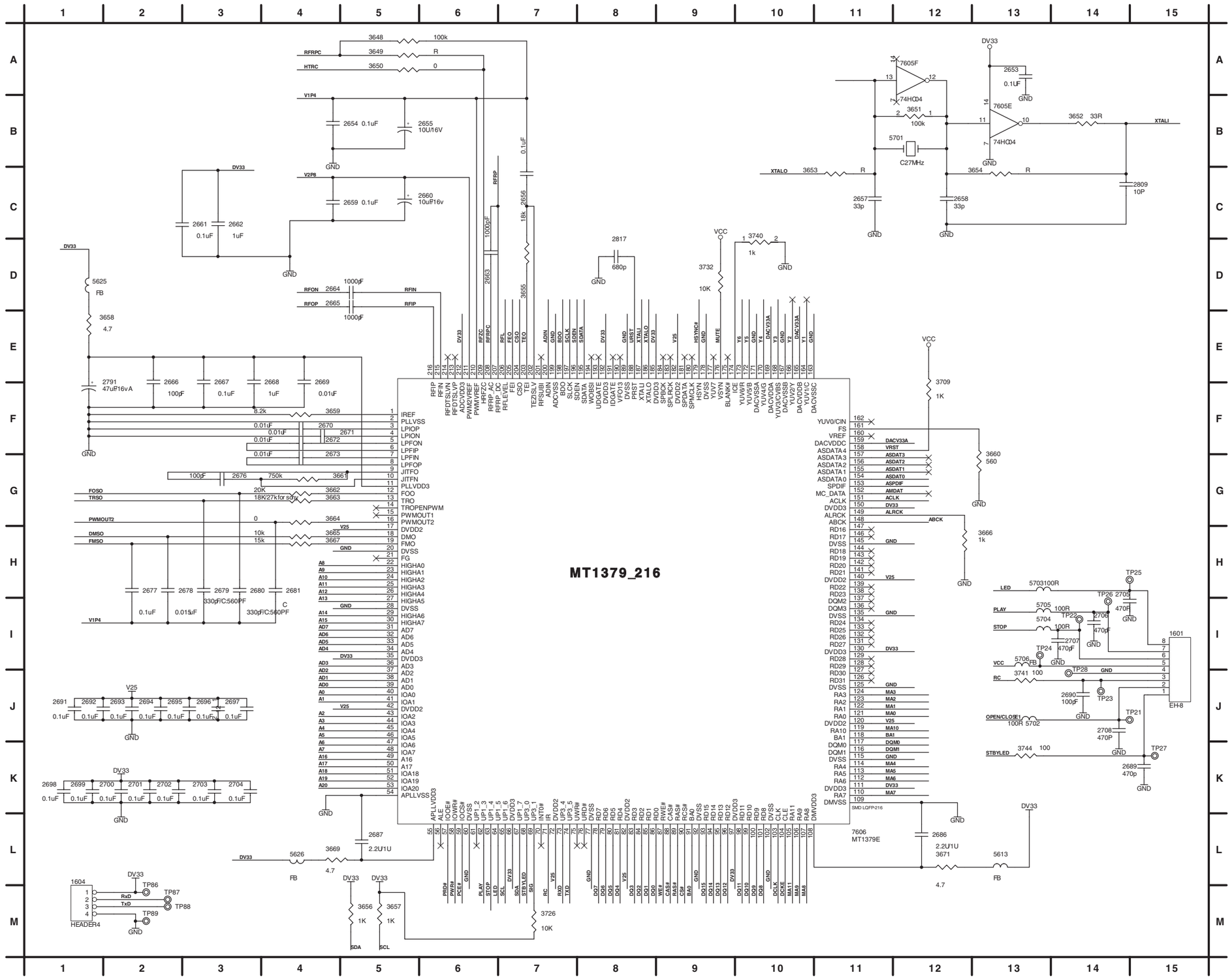
1600	H3
2601	J4
2602	J3
2603	K3
2606	K12
2607	L3
2608	L11
2682	I9
2683	I9
2684	I9
2717	I12
2719	I2
2781	K4
2782	H12
2783	K12
2785	L12
2797	I5
2799	I2
2815	H15
3611	I13
3612	L5
3618	J3
3619	J5
3817	H13
5602	K10
5603	K2
5604	L2
5605	L5
5606	K5
5610	I8
5614	H11
5618	H11
5623	H5
5627	I11
6604	K11
6605	I12
7601	K9
7650	G14
TP01	H2
TP02	H3
TP03	K13
TP05	L13
TP09	H14
TP99	J4

Electrical Diagrams MPEG DVP320
MPEG Board: RF Part



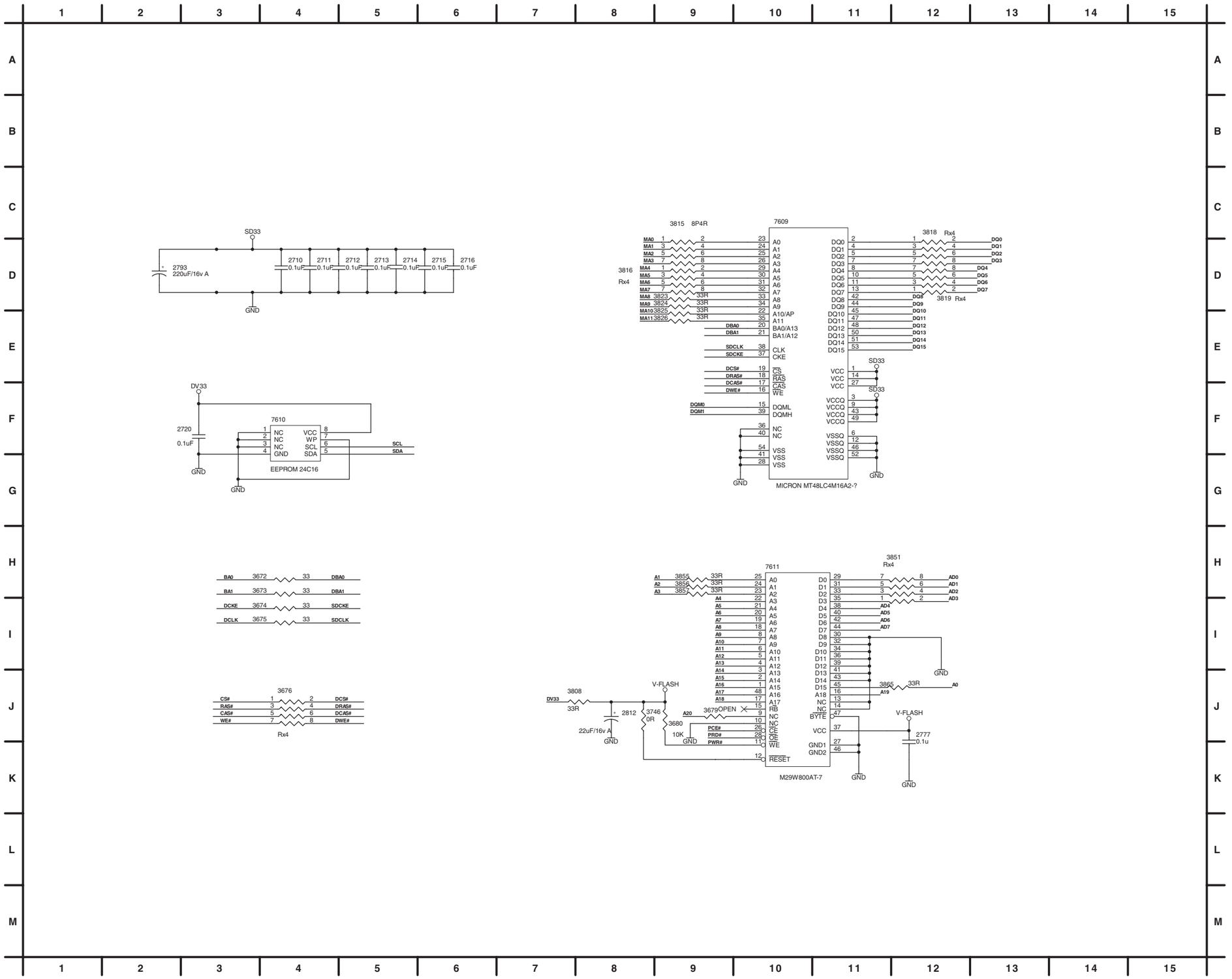
1602	K14	3630	H3
1609	E1	3631	J1
1620	C14	3632	J2
2610	D10	3633	J5
2611	D9	3634	J5
2612	E12	3635	K6
2614	E7	3636	K6
2615	F7	3637	J9
2616	F13	3638	K1
2617	F14	3639	L6
2618	F13	3640	K13
2619	F13	3642	K14
2620	G12	3643	K13
2621	G12	3644	K13
2622	G13	3645	L13
2623	G14	3733	C2
2624	G7	3734	C3
2625	H4	3735	D3
2626	H7	3736	D3
2627	H7	3737	E2
2628	H14	3738	E2
2629	G14	3802	C9
2630	H12	3803	C9
2631	H13	3804	C9
2632	H13	5607	G3
2633	G13	5609	H3
2634	H4	7602	E11
2635	H12	7603	L4
2636	H7	7620	H3
2637	I7	7621	H3
2638	H6	7630	E2
2639	I7	7631	E3
2640	I6	7632	D3
2641	I12	TP11	H3
2642	J10	TP12	H3
2643	L1	TP60	F2
2644	L7	TP61	F2
2645	K10	TP62	F3
2646	K9	TP63	F2
2647	K9	TP64	F2
2648	L5	TP65	F2
2649	J14	TP66	F2
2650	J13	TP67	G2
2771	E3	TP68	G2
2772	F2	TP69	G3
2774	L2	TP70	G3
2775	L3	TP71	G2
2786	E4	TP72	H2
2787	E6	TP73	I2
2788	I12	TP74	I2
2789	K8	TP75	H2
3600	C15	TP76	G2
3601	C13	TP77	F3
3620	C12	TP78	E2
3621	C10	TP79	E4
3622	E13	TP80	K14
3623	E13	TP81	K13
3624	E13	TP82	K13
3625	F13	TP83	L13
3626	F13	TP84	L13
3627	F14	TP85	L13
3629	H3		

Electrical Diagrams MPEG DVP320
MPEG Board: SERVO & Mpeg Part



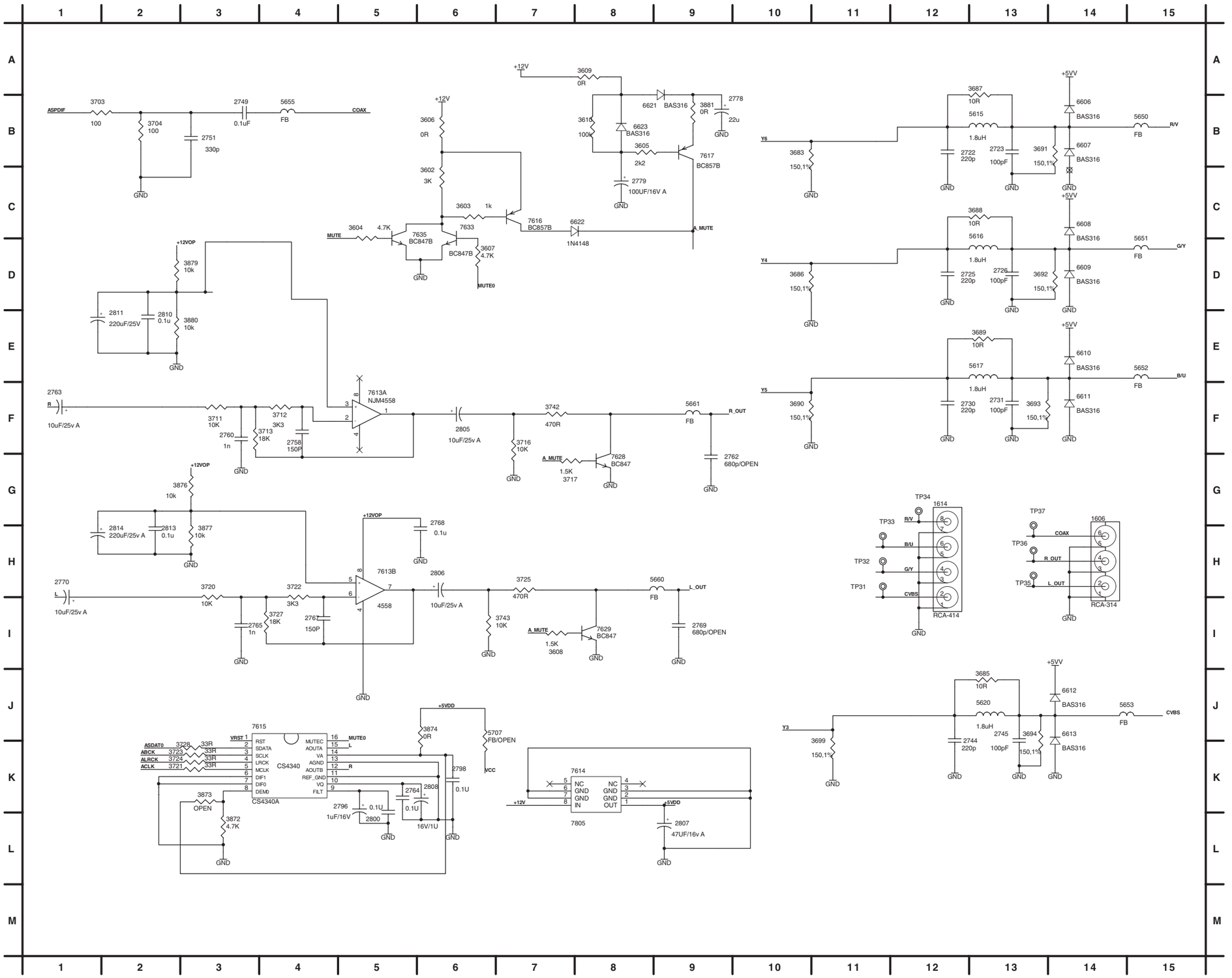
1601	J15
1604	M1
2653	A13
2654	B4
2655	B5
2656	C7
2657	C11
2658	C12
2659	C4
2660	C5
2661	C3
2662	C3
2663	D6
2664	D5
2665	D5
2666	E2
2667	E3
2668	E3
2669	E4
2670	F4
2671	F4
2672	F4
2673	F4
2676	G3
2677	H2
2678	H2
2679	H3
2680	H3
2681	H4
2686	L12
2687	L5
2689	K15
2690	J14
2691	J1
2692	J1
2693	J2
2694	J2
2695	J3
2696	J3
2697	J3
2698	K1
2699	K1
2700	K2
2701	K2
2702	K2
2703	K3
2704	K3
2705	I14
2706	I14
2707	I14
2708	J14
2791	E1
2809	C14
2817	D8
3648	A6
3649	A6
3650	A6
3651	B12
3652	B14
3653	C11
3654	C13
3655	D7
3656	M5
3657	M5
3658	E1
3659	F4
3660	F13
3661	G4
3662	G4
3663	G4
3664	H4
3665	H12
3666	H4
3669	L4
3671	L12
3709	E12
3726	M7
3732	D9
3740	C10
3741	J13
3744	K13
5613	L13
5625	D1
5626	L4
5701	B12
5702	J13
5703	H13
5704	I13
5705	I13
5706	I13
7605	A12
7606	B13
7606	E5
TP21	J15
TP22	I14
TP23	J14
TP24	I13
TP25	H15
TP26	I14
TP27	K15
TP28	I14
TP86	M2
TP87	M2
TP88	M2
TP89	M2

Electrical Diagrams MPEG DVP320
MPEG Board: Memory Part



2710	D4
2711	D4
2712	D4
2713	D5
2714	D5
2715	D6
2716	D6
2720	F3
2777	K12
2793	D2
2812	J8
3672	H4
3673	I4
3674	I4
3675	I4
3676	J4
3679	J9
3680	J9
3746	J8
3808	J7
3815	C9
3816	D9
3818	C12
3819	D12
3823	D9
3824	E9
3825	E9
3826	E9
3851	I11
3855	H9
3856	H9
3857	I9
3865	J11
7609	C10
7610	F4
7611	H10

Electrical Diagrams MPEG DVP320
MPEG Board: Audio & Video Part



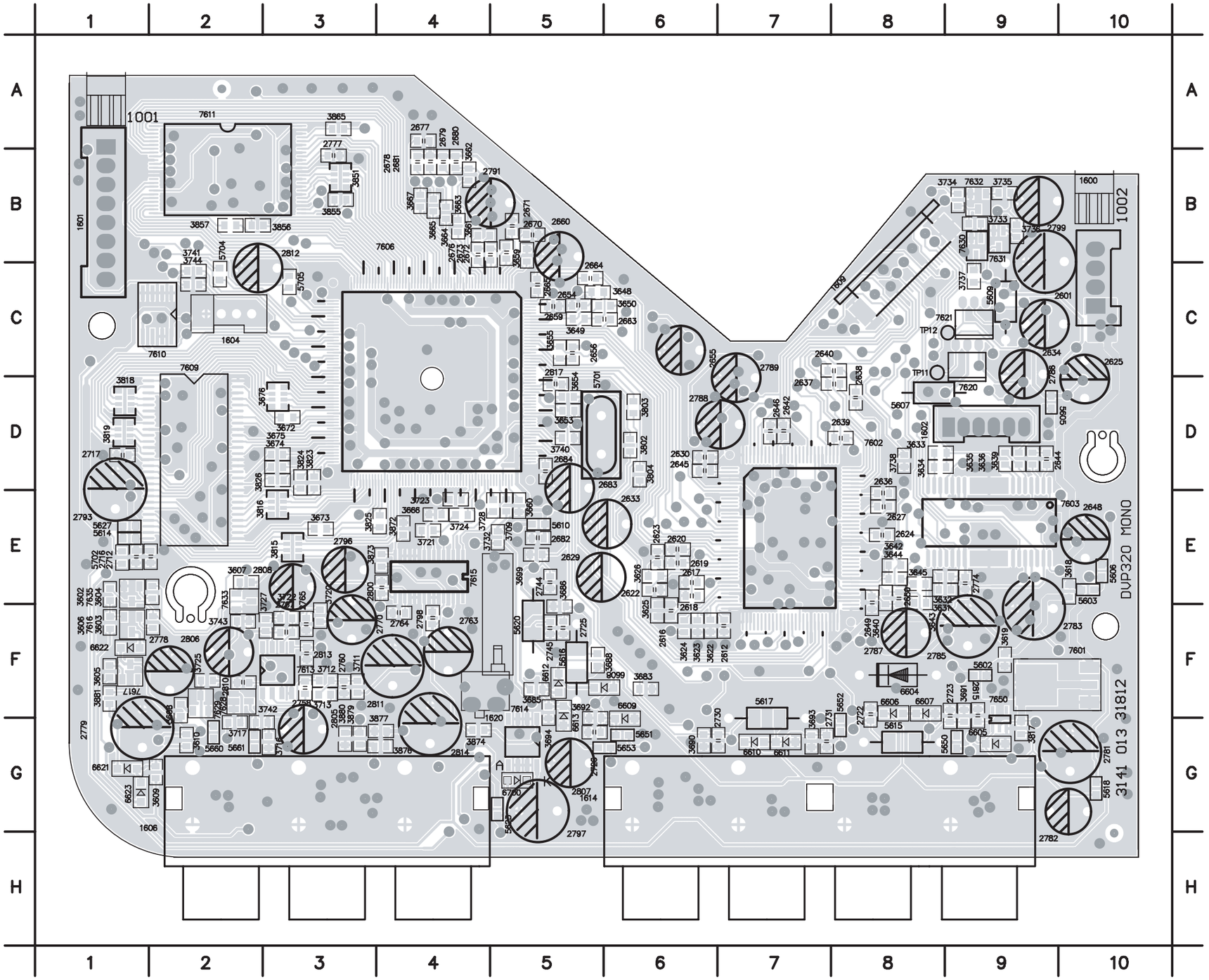
1606	H14	3716	G7
1614	I12	3717	G8
2722	B12	3720	I3
2723	B13	3721	K3
2725	D12	3722	I4
2726	D13	3723	K3
2730	F12	3724	K3
2731	F13	3725	I7
2744	J12	3727	I4
2745	J13	3728	K3
2749	B3	3742	F7
2751	B3	3743	I6
2758	F4	3872	L3
2760	F3	3873	K3
2762	G9	3874	J5
2763	F1	3876	G3
2764	K5	3877	H3
2765	I3	3879	D2
2767	I4	3880	E2
2768	H5	3881	B9
2769	I9	5615	B13
2770	H1	5616	D13
2778	B9	5617	E13
2779	C8	5620	J13
2796	K5	5650	B15
2798	K6	5651	D15
2800	K5	5652	E15
2805	F6	5653	J14
2806	I6	5655	B4
2807	L9	5660	H8
2808	K5	5661	F9
2810	E2	5707	J6
2811	E1	6606	B14
2813	H2	6607	B14
2814	H1	6608	D14
3602	C6	6609	D14
3603	C6	6610	E14
3604	D5	6611	F14
3605	B9	6612	J14
3606	B6	6613	K14
3607	D6	6621	A8
3608	I7	6622	C7
3609	A8	6623	B8
3610	B8	7613	F5
3683	C11	7613	H5
3685	J13	7614	L8
3686	D11	7615	K4
3687	A13	7616	C7
3688	C13	7617	B9
3689	E13	7628	G8
3690	F11	7629	I8
3691	C14	7633	C6
3692	D14	7635	C5
3693	F14	TP31	H12
3694	K14	TP32	H12
3699	K11	TP33	H12
3703	B1	TP34	G12
3704	B2	TP35	H13
3711	F3	TP36	H13
3712	F4	TP37	G13
3713	F4		

Personal Notes:

Personal Notes:

Layout MPEG (3141 013 3181.2)

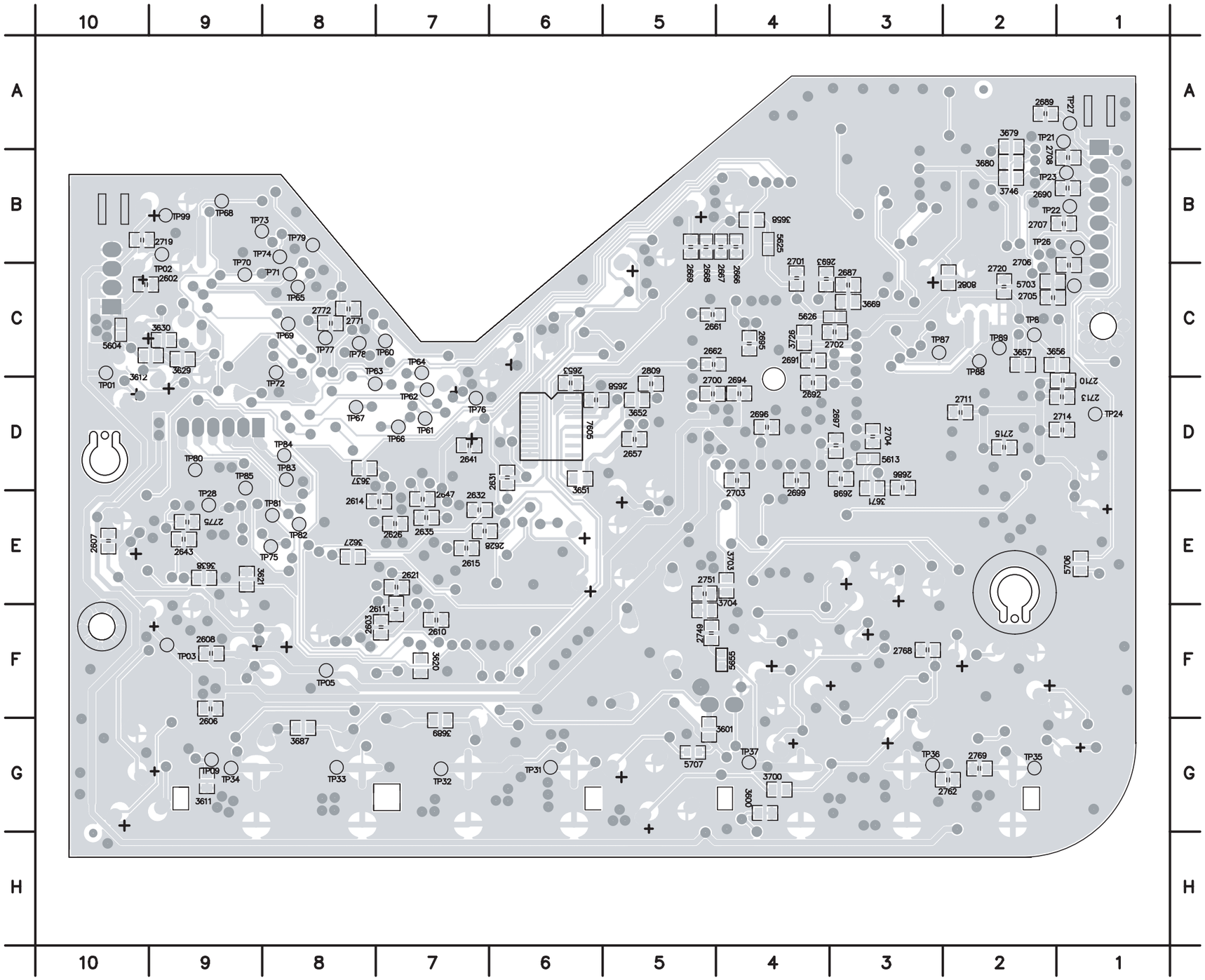
Components Side



1600	C10	2763	F4	3660	E5	3877	G4
1601	A1	2764	F4	3661	B5	3879	G3
1602	D9	2765	F3	3662	B4	3880	G3
1604	C2	2767	F3	3663	B4	3881	F1
1606	G2	2770	F3	3664	B4	5602	F9
1609	C8	2774	E9	3665	B4	5603	E10
1614	G6	2777	B3	3666	E4	5605	D9
1620	F4	2778	F2	3667	B4	5606	E10
2601	B10	2779	G1	3672	D3	5607	D9
2612	F7	2781	G10	3673	E3	5609	C9
2616	F6	2782	G10	3674	D3	5610	E5
2617	E6	2783	F9	3675	D3	5614	E1
2618	E6	2785	F9	3676	D3	5615	G8
2619	E6	2786	C9	3683	F6	5616	F5
2620	E6	2787	F8	3685	F5	5617	G7
2622	E6	2788	D7	3686	F5	5618	G10
2623	E6	2789	D7	3688	F5	5620	F5
2624	E8	2791	B5	3690	G6	5623	G5
2625	D10	2793	E1	3691	F9	5627	E1
2627	E8	2796	E3	3692	G5	5650	G9
2629	E6	2797	G5	3693	G7	5651	G6
2630	D6	2798	F4	3694	G5	5652	G8
2633	E6	2799	B9	3699	E5	5653	G6
2634	C10	2800	E4	3709	E5	5660	G2
2636	E8	2805	G3	3711	F3	5661	G2
2637	D7	2806	F2	3712	F3	5701	D5
2638	D8	2807	G5	3713	F3	5702	E1
2639	D8	2808	E3	3716	G3	5704	C2
2640	C7	2810	F2	3717	G2	5705	C3
2642	D7	2811	F4	3720	F3	6604	F8
2644	D9	2812	C3	3721	E4	6605	G9
2645	D6	2813	F3	3722	F3	6606	F8
2646	D7	2814	G4	3723	E4	6607	F8
2648	E10	2815	F9	3724	E4	6608	F6
2649	F8	2817	D5	3725	F2	6609	G6
2650	E8	3602	E1	3727	F3	6610	G7
2654	C5	3603	F2	3728	E5	6611	G7
2655	C6	3604	E2	3732	E5	6612	F5
2656	C5	3605	F1	3733	B9	6613	F5
2659	C5	3606	F1	3734	B9	6621	G1
2660	B5	3607	E2	3735	B9	6622	F1
2663	C6	3608	F2	3736	B9	6623	G1
2664	C5	3609	G2	3737	C9	6700	G5
2665	C5	3610	G2	3738	D8	7601	F10
2670	B5	3618	E10	3740	D5	7602	D7
2671	B5	3619	F9	3741	C2	7603	D9
2672	B5	3622	F6	3742	G3	7606	C5
2673	B5	3623	F6	3743	F2	7609	D1
2676	B4	3624	F6	3744	C2	7610	C2
2677	A4	3625	F6	3802	D6	7611	A2
2678	B4	3626	E6	3803	D6	7613	F3
2679	B4	3631	E9	3804	D6	7614	G5
2680	B4	3632	E9	3815	E3	7615	E4
2681	B4	3633	D9	3816	E3	7616	F1
2682	E5	3634	D9	3817	G9	7617	F1
2683	D5	3635	D9	3818	D1	7620	C9
2684	D5	3636	D9	3819	D1	7621	C9
2712	E2	3639	D9	3823	D3	7628	F2
2716	E1	3640	E8	3824	D3	7629	F2
2717	D1	3642	E8	3825	E4	7630	B9
2722	G8	3643	E8	3826	D3	7631	B9
2723	G9	3644	E8	3851	B3	7632	B9
2725	F5	3645	E8	3855	B3	7633	E2
2726	G5	3648	C5	3856	B3	7635	E1
2730	G7	3649	C5	3857	B2	7650	G9
2731	G7	3650	C5	3865	A3	TP11	C8
2744	E5	3653	D5	3872	E4	TP12	C9
2745	F5	3654	D5	3873	E4		
2758	F3	3655	C5	3874	G4		
2760	F3	3659	B5	3876	G3		

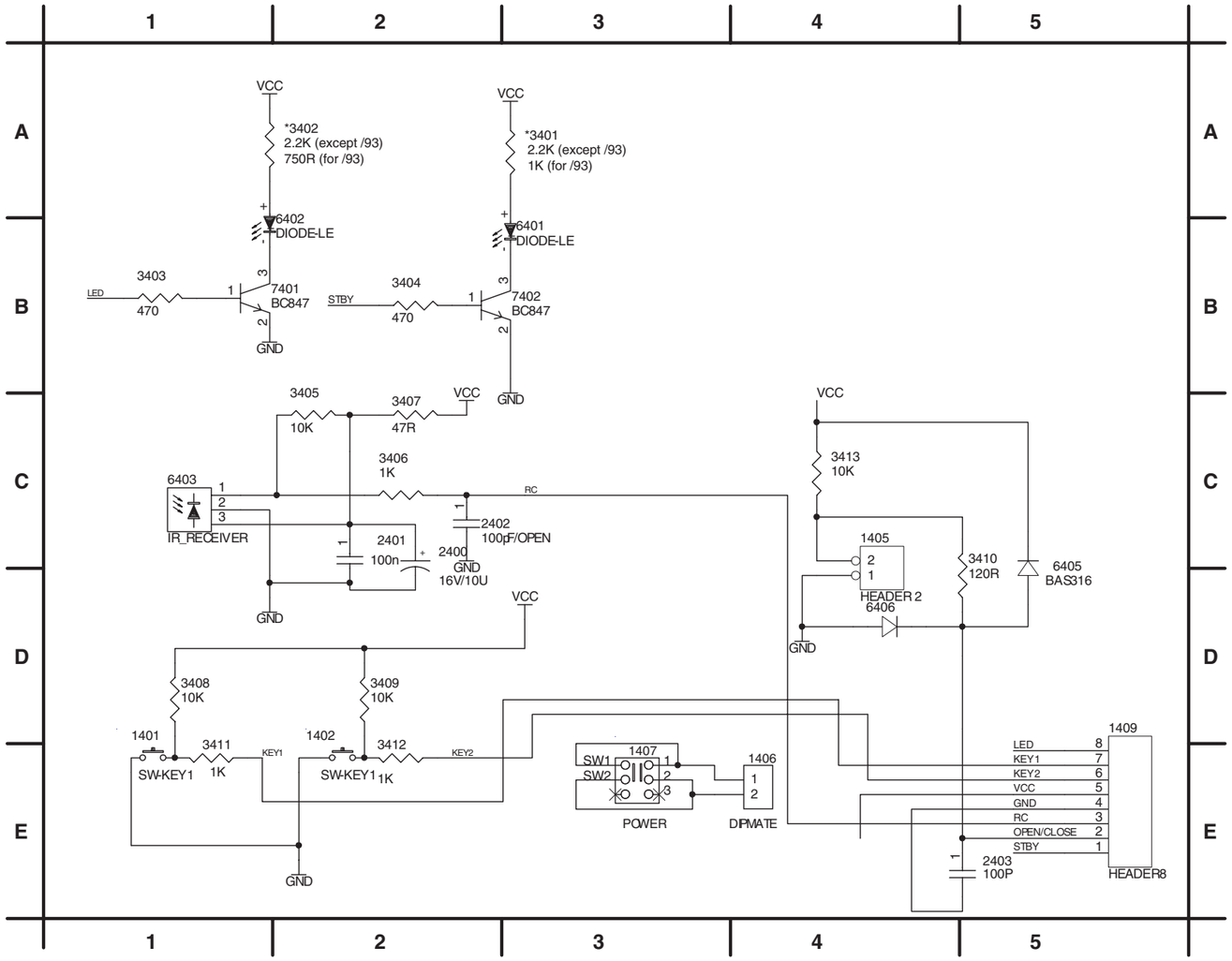
Layout MPEG (3141 013 3181.2)

Bottom Side



2602	C10	3621	E9	TP78	C8
2603	F7	3627	E8	TP79	B8
2606	F9	3629	C9	TP80	D9
2607	E10	3630	C9	TP81	E8
2608	F9	3637	D8	TP82	E8
2610	F7	3638	E9	TP83	D8
2611	E7	3651	D6	TP84	D8
2614	E8	3652	D5	TP85	D9
2615	E7	3656	C2	TP86	C2
2621	E7	3657	C2	TP87	C3
2626	E7	3658	B4	TP88	C2
2628	E6	3669	C3	TP89	C2
2631	D6	3671	D3	TP99	B9
2632	E7	3679	A2		
2635	E7	3680	B2		
2641	D7	3687	G8		
2643	E9	3689	G7		
2647	E7	3700	G4		
2653	D6	3703	E4		
2657	D5	3704	F5		
2658	D6	3726	C4		
2661	C4	3746	B2		
2662	C5	3808	C2		
2666	B4	5604	C10		
2667	B4	5613	D3		
2668	B5	5625	B4		
2669	B5	5626	C3		
2686	D3	5655	F4		
2687	C3	5703	C2		
2689	A2	5706	E1		
2690	B1	5707	G5		
2691	C4	7605	D6		
2692	D4	TP01	C10		
2693	C4	TP02	B9		
2694	D4	TP03	F9		
2695	C4	TP05	F8		
2696	D4	TP09	G9		
2697	D3	TP21	A1		
2698	D3	TP22	B1		
2699	D4	TP23	B1		
2700	D5	TP24	D1		
2701	C4	TP25	C1		
2702	C3	TP26	B1		
2703	D4	TP27	A1		
2704	D3	TP28	E9		
2705	C2	TP31	G6		
2706	C1	TP32	G7		
2707	B1	TP33	G8		
2708	B1	TP34	G9		
2710	D1	TP35	G2		
2711	D2	TP36	G3		
2713	D1	TP37	G4		
2714	D2	TP60	C7		
2715	D2	TP61	D7		
2719	B10	TP62	D7		
2720	C2	TP63	D8		
2749	F5	TP64	C7		
2751	E5	TP65	C8		
2762	G3	TP66	D7		
2768	F3	TP67	D8		
2769	G2	TP68	B9		
2771	C8	TP69	C8		
2772	C8	TP70	C9		
2775	E9	TP71	C8		
2809	D5	TP72	C8		
3600	G4	TP73	B9		
3601	G5	TP74	B8		
3611	G9	TP75	E8		
3612	C9	TP76	D7		
3620	F7	TP77	C8		

Electrical Diagrams Front DVP320

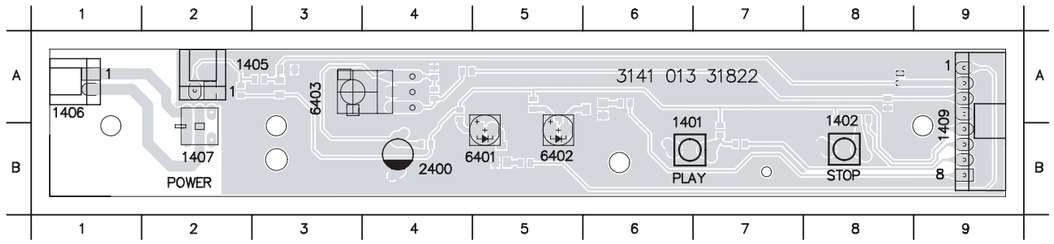


1401 E1
1402 E2
1405 D4
1406 E4
1407 E3
1409 E5
2400 C2
2401 C2
2402 C2
2403 E4
3401 A2
3402 A1
3403 B1
3404 B2
3405 C2
3406 C2
3407 C2
3408 D1
3409 D2
3410 D5
3411 E1
3412 E2
3413 C4
6401 B3
6402 B1
6403 C1
6405 D5
6406 D4
7401 B1
7402 B2

Layout Front DVP320 PCB 3141 013 31822

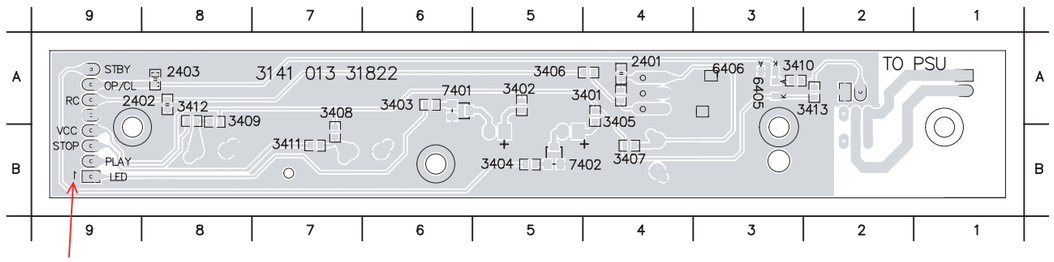
Components Side

1401 B6
1402 B8
1405 A2
1406 A1
1407 B2
1409 B9
2400 B4
6401 B5
6402 B5
6403 A4



Copper Side

2401 A4
2402 A8
2403 A8
3401 A4
3402 A5
3403 A6
3404 B5
3405 A4
3406 A4
3407 B4
3408 B7
3409 A8
3410 A3
3411 B7
3412 A8
6405 A3
6406 A3
7401 A6
7402 B5



Note: The screen print is wrong, the number "1" should be "8".

Personal Notes:

8 Electrical alignments

Not available

9 Circuit descriptions

Refer to Service Training SD5.42 MTK. 12NC: 3122 785 12820 for IC MT1379, MT1366, BA5954

9.1 Regulator LD1117DT

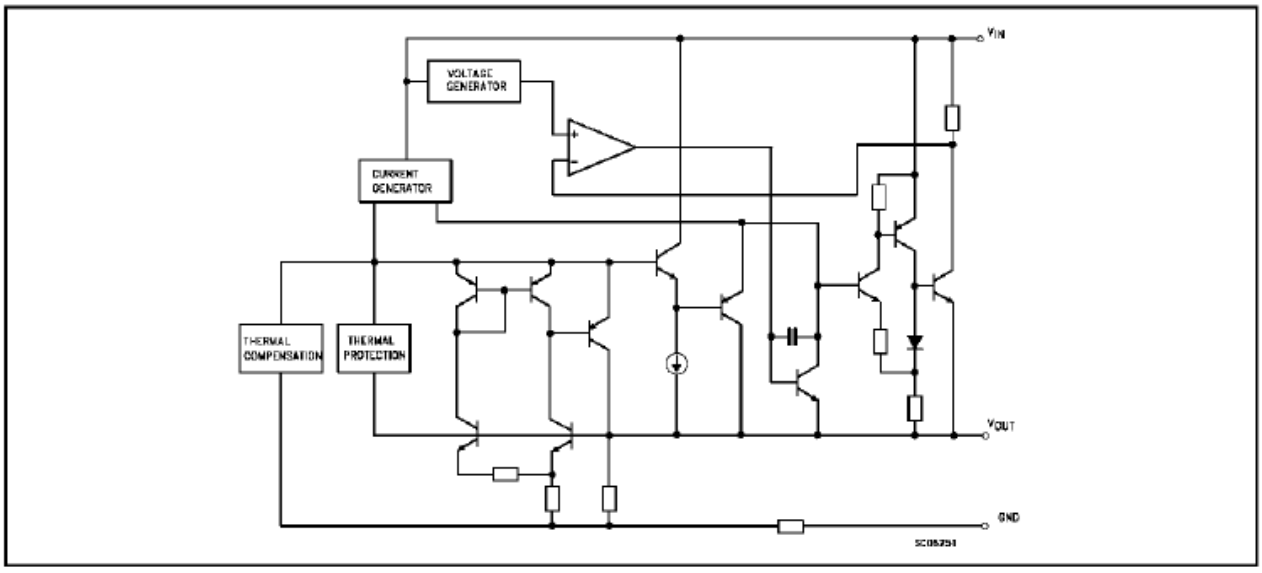
9.1.1 Features

- Low drop out voltage (1V Typ)
- 2.85V device performance are suitable for SCSI-2 active
- Output current up to 800 mA
- Fixed output voltage of 2.5V, 2.85V, 3.0V, 3.3V, 5.0V
- Adjustable version availability (Vref=1.25V)
- Internal current and thermal
- Available in ± 1% (at 25°C) and 2% in full temperature range
- Supply voltage ejection: 75 dB (Typ)
- Temperature range: 0°C to 125°C

9.1.2 Description

The LD1117DT33 is a LOW DROP Voltage Regulator able to provide up to 800mA of Output Current, available even in adjustable version (Vref=1.25V). Concerning fixed versions, are offered the following Output Voltages: 2.5V, 2.85V, 3.0V 3.3V and 5.0V. The 2.85V type is ideal for SCSI-2 lines active termination. The device is supplied in: SOT-223, DPAK, SO-8 and TO-220. The SOT-223 and DPAK surface mount packages optimize the thermal characteristics even offering a relevant space saving effect. High efficiency is assured by NPN pass transistor. In fact in this case, unlike than PNP one, the Quiescent Current flows mostly into the load. Only a very common 10mF minimum capacitor is needed for stability. On chip trimming allows the regulator to reach a very tight output voltage tolerance, within ± 1% at 25 °C. The ADJUSTABLE LD1117 is pin-to-pin compatible with the other standard Adjustable voltage regulators maintaining the better performances in terms of Drop and Tolerance.

9.1.3 BLOCK DIAGRAM

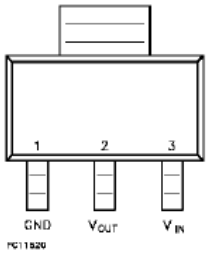


9.1.4 Absolute maximum ratings

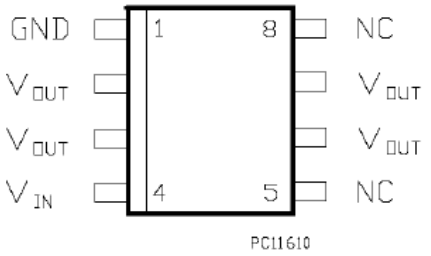
Symbol	Parameter	Value	Unit
V_{IN}	DC Input Voltage	15	V
P_{tot}	Power Dissipation	12	W
T_{stg}	Storage Temperature Range	-40 to 150	°C
T_{op}	Operating Junction Temperature Range	0 to 125	°C

Absolute Maximum Ratings are those values beyond which damage to the device may occur. Functional operation under these conditions is not implied. Over the above suggested Max Power Dissipation a Short Circuit could definitively damage the device.

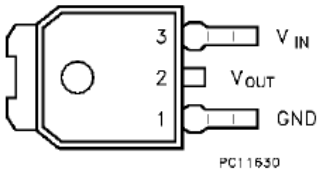
9.1.5 Layout diagrams and ordering numbers (top view)



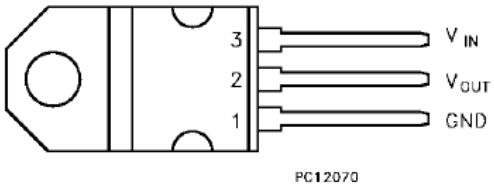
SOT-223



SO-8



DPAK



TO-220

SOT-223	SO-8	DPAK	TO-220	Output Voltage
LD1117S25	LD1117D25	LD1117DT25	LD1117V25	2.5V
LD1117S25C	LD1117D25C	LD1117DT25C	LD1117V25C	2.5V
LD1117S28	LD1117D28	LD1117DT28	LD1117V28	2.85V
LD1117S30	LD1117D30	LD1117DT30	LD1117V30	3V
LD1117S30C	LD1117D30C	LD1117DT30C	LD1117V30C	3V
LD1117S33	LD1117D33	LD1117DT33	LD1117V33	3.3V
LD1117S33C	LD1117D33C	LD1117DT33C	LD1117V33C	3.3V
LD1117S50	LD1117D50	LD1117DT50	LD1117V50	5V
LD1117S50C	LD1117D50C	LD1117DT50C	LD1117V50C	5V
LD1117S	LD1117D	LD1117DT	LD1117V	ADJUSTABLE FROM 1.25 TO 15V

9.2 NCP302

9.2.1 Description

The NCP302 and NCP303 series are second generation ultra–low current voltage detectors that contain a programmable time delay generator. These devices are specifically designed for use as reset controllers in portable microprocessor based systems where extended battery life is paramount.

Each series features a highly accurate under voltage detector with hysteresis and an externally programmable time delay generator. This combination of features prevents erratic system reset operation.

The NCP302 series consists of complementary output devices that are available with either an active high or active low reset. The NCP303 series has an open drain N–channel output with an active low reset output.

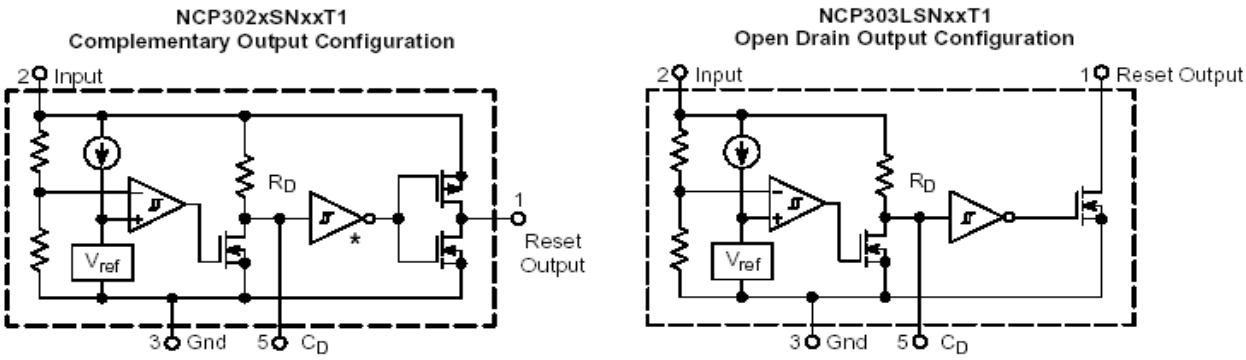
9.2.2 Features

- Quiescent Current of 0.5 μA Typical
- High Accuracy Under Voltage Threshold of 2.0%
- Externally Programmable Time Delay Generator
- Wide Operating Voltage Range of 0.8 V to 10 V
- Complementary or Open Drain Output
- Active Low or Active High Reset

9.2.3 Typical Applications

- Microprocessor Reset Controller
- Low Battery Detection
- Power Fail Indicator
- Battery Backup Detection

9.2.4 Block diagrams



* Inverter for active low devices.
Buffer for active high devices.

This device contains 28 active transistors.

Figure 1. Representative Block Diagrams

9.2.5 MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Input Power Supply Voltage (Pin 2)	V_{in}	12	V
Delay Capacitor Pin Voltage (Pin 5)	V_{CD}	–0.3 to V_{in} + 0.3	V
Output Voltage (Pin 1) Complementary, NCP302 N–Channel Open Drain, NCP303	V_{OUT}	 –0.3 to V_{in} + 0.3 –0.3 to 12	V
Output Current (Pin 1) (Note 2)	I_{OUT}	70	mA
Thermal Resistance Junction to Air	$R_{\theta JA}$	250	°C/W
Operating Junction Temperature Range	T_J	–40 to +125	°C
Storage Temperature Range	T_{stg}	–55 to +150	°C
Latch–up Performance Positive Negative	$I_{LATCH-UP}$	 200 200	mA

1. This device series contains ESD protection and exceeds the following tests:
   Human Body Model 2000 V per MIL–STD–883, Method 3015.
   Machine Model Method 200 V.
2. The maximum package power dissipation limit must not be exceeded.

$$P_D = \frac{T_{J(max)} - T_A}{R_{\theta JA}}$$

9.2.6 ELECTRICAL CHARACTERISTICS

(For all values T_A = 25°C, unless otherwise noted.)

Characteristic	Symbol	Min	Typ	Max	Unit
NCP302/3 – 3.0					
Detector Threshold (Pin 2, V_{in} Decreasing)	V_{DET-}	2.94	3.00	3.06	V
Detector Threshold Hysteresis (Pin 2, V_{in} Increasing)	V_{HYS}	0.09	0.15	0.21	V
Supply Current (Pin 2) (V_{in} = 2.87 V) (V_{in} = 5.0 V)	I_{in}	 – –	 0.27 0.47	 0.9 1.3	µA
Maximum Operating Voltage (Pin 2)	$V_{in(max)}$	–	–	10	V
Minimum Operating Voltage (Pin 2) (T_A = –40°C to 85°C)	$V_{in(min)}$	– –	0.55 0.65	0.70 0.80	V
Reset Output Current (Pin 1, Active Low 'L' Suffix Devices) Nch Sink Current, NCP302, NCP303 (V_{OUT} = 0.05V, V_{in} = 0.70V) (V_{OUT} = 0.50V, V_{in} = 1.5V) Pch Source Current, NCP302 (V_{OUT} = 2.4V, V_{in} = 4.5V)	I_{OUT}	 0.01 1.0 1.0	 0.05 2.0 2.0	 – – –	mA
Reset Output Current (Pin 1, Active High 'H' Suffix Devices) Nch Sink Current, NCP302, NCP303 (V_{OUT} = 0.5 V, V_{in} = 5.0 V) Pch Source Current, NCP302 (V_{OUT} = 0.4 V, V_{in} = 0.7 V) (V_{OUT} = GND, V_{in} = 1.5 V)	I_{OUT}	 6.3 0.011 0.525	 11 0.04 0.6	 – – –	mA
C_D Delay Pin Threshold Voltage (Pin 5) (V_{in} = 3.3 V)	V_{TCD}	1.65	2.23	2.81	V
Delay Capacitor Pin Sink Current (Pin 5) (V_{in} = 0.7 V, V_{CD} = 0.1V) (V_{in} = 1.5 V, V_{CD} = 0.5V)	I_{CD}	 2.0 200	 120 1600	 – –	µA
Delay Pullup Resistance (Pin 5)	R_D	0.5	1.0	2.0	MΩ

9.2.7 OPERATING DESCRIPTION

The NCP302 and NCP303 series devices consist of a precision voltage detector that drives a time delay generator. Figures 37 and 38 show a timing diagram and a typical application. Initially consider that input voltage Vin is at a nominal level and it is greater than the voltage detector upper threshold (VDET+). The voltage at Pin 5 and capacitor CD will be at the same level as Vin, and the reset output (Pin 1) will be in the high state for active low devices, or in the low state for active high devices. If there is a power interruption and Vin becomes significantly deficient, it will fall below the lower detector threshold (VDET–) and the external time delay capacitor CD will be immediately discharged by an internal N–channel MOSFET that connects to Pin 5. This sequence of events causes the Reset output to be in the low state for active low devices, or in the high state for active high devices. After completion of the power interruption, Vin will again return to its nominal level and become greater than the VDET+. The voltage detector will turn off the N–channel MOSFET and allow pull-up resistor RD to charge external capacitor CD, thus creating a programmable delay for releasing the reset signal. When the voltage at Pin 5 exceeds the inverter/buffer threshold, typically 0.675 Vin, the reset output will revert back to its original state. The voltage detector and inverter/buffer have built–in hysteresis to prevent erratic reset operation.

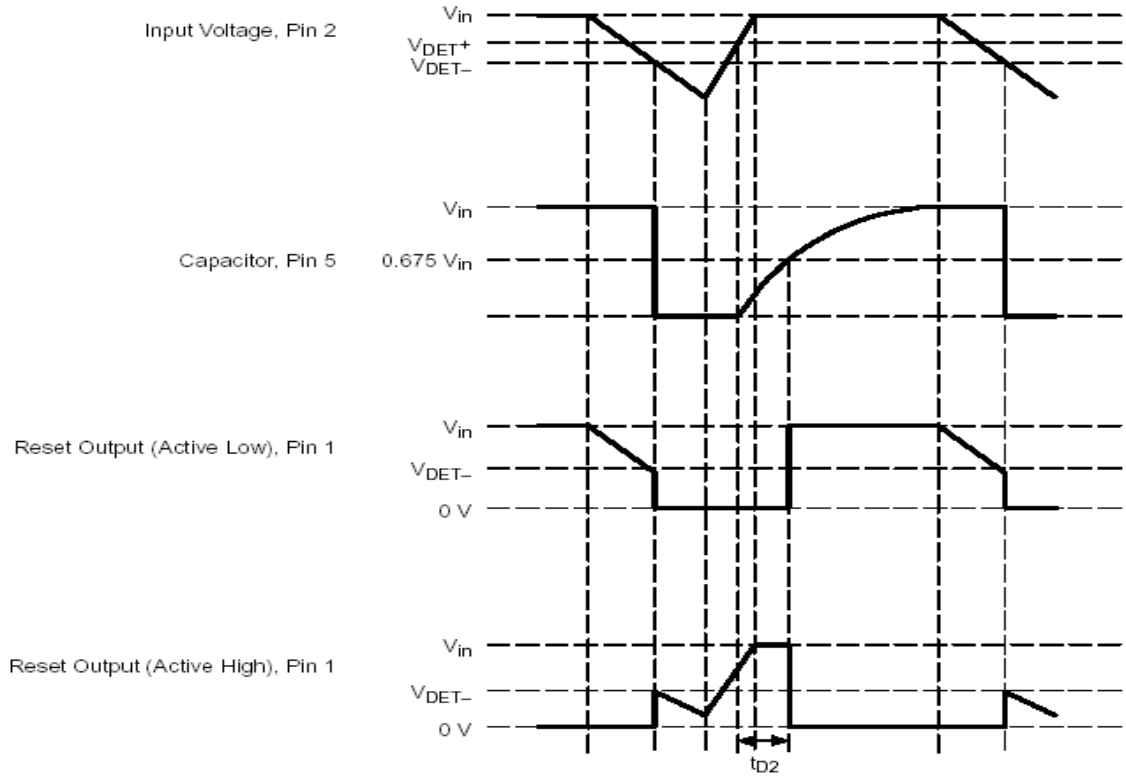


Figure 37. Timing Waveforms

APPLICATION CIRCUIT INFORMATION

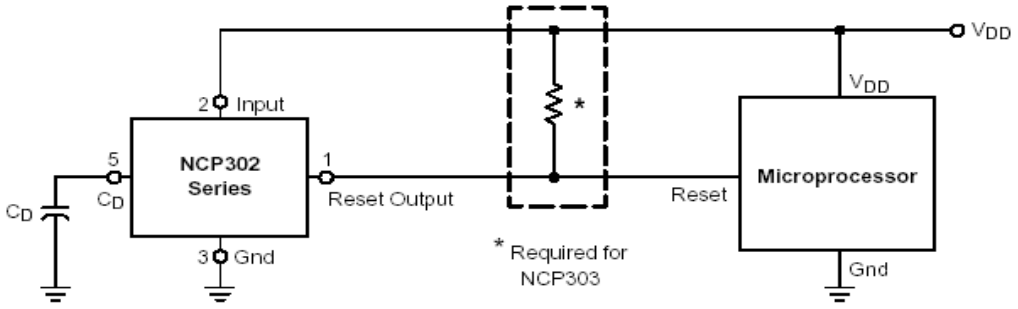


Figure 38. Microprocessor Reset Circuit

10 Spare Parts List

10.1 Spare Parts List DVP320/69

ACCESSORIES DVP320/69

0381	2422 076 00304	CABLE CINCH/CINCH 1M5 YE/RD/WH
0384	3141 017 90351	REMOTE CONTROL DVP320-RC1

TECHNICAL SET DVP320/69

Various

0200	3141 017 79963	FRONT ASSY DVP320/69
0207	3141 011 60761	DOOR SPRING DVP320
0209	3141 011 21971	GASKET-PLATE
0211	3141 017 51091	BUTTON POWER PPT DVP320/69
0213	3141 017 79981	BOTTOM CABINET ASSY DVP320/69
0216	3140 111 21841	SPEAKER CLIP
0217	3141 011 21941	SHIELD FRAME DVP320
0219	3141 011 21951	SHIELD TOP DVP320
0221	3141 013 20531	WASHER LOADER DVP320
1001	3141 018 04371	DVD TRAVERSE KHM-280AHA (SONY)
1002	3141 018 04382	PBAS MONO BOARD DVP320
1003	3141 018 04392	PBAS FRONT DVP320
1005	3141 018 04931	PBAS PUS GAP MITSUMI WW AU/NZ
1006	8240 008 70121	CD DOOR SWITCH
5001	3141 018 71310	MAINS CORD 1.60M
8001	3141 010 21882	FFC 26P/150/26P 0.5MM FOLDED
8002	3141 010 21911	CWAS 8P/170/8P EH 2.5MM
8003	3141 010 21921	CWAS 6P/225/6P PH 2.0MM
8004	3141 010 21951	CWAS 2POP/50/2PEH
8005	3141 010 21932	CWAS 4P/175/4P EH 2.5MM

FRONT CABINET ASSY DVP320/69

0010	3141 017 79991	TOP CABINET PPT DVP320/69
0020	3141 017 50561	BUTTON TREE PPT DVP320
0040	3141 017 79971	DOOR ASSY DVP320/69
0050	4822 529 10322	DAMPER ASSY /78
0050	3139 118 73621	DAMPER ASSY /93 /69 /75
0070	3141 013 20581	PC SHEET COVER L DVP320
0080	3141 013 20591	PC SHEET COVER R DVP320
0090	3141 013 10041	FELT 7

BOTTOM CABINET ASSY DVP320/69

0020	3141 013 20521	CUSHION FOOT DVP320

MONO BOARD DVP320/69

1609	3141 010 30541	CON FPC BOTTOM SM 0.5MM 26P
1620	2422 128 02604	SPPB62010A
5701	3141 018 80600	CRYSTAL QUARTZ 27M
7601	9322 134 45668	LD1117DT33
7603	9322 187 63668	IC SM BA5954FP(RHM0) R
7611	3141 017 41163	FLASH ASSY GAP-PH
7614	9322 043 00668	MC78L05ACD
7620	9322 133 00685	2SB1132
7621	9322 133 00685	2SB1132
7630	3141 018 51690	TRA SM 2SK3018
7631	3141 018 51690	TRA SM 2SK3018
7650	9322 199 91685	IC SM NCP302HSN30 (ONSE) R

FRONT BOARD DVP320/69

1401	2422 128 02496	SWITCH, PUSH BUTTON
1402	2422 128 02496	SWITCH, PUSH BUTTON
1407	3141 018 40231	SWI PUSH 2P PSA-22D02LO LUPFUNG
6401	3141 018 51881	LED RED DIF LTL-4221N
6402	3141 018 51711	LED ORANGE
6403	3141 010 50391	IR TSOP4836-LL1 (VISHAY)
8401	3141 010 21941	CWAS 2P/70/2P EH 2.5MM

10.2 Spare Parts List DVP320/75

ACCESSORIES DVP320/75

0381	2422 076 00304	CABLE CINCH/CINCH 1M5YE/RD/WH
0384	3141 017 90351	REMOTE CONTROL DVP320-RC1

TECHNICAL SET DVP320/75

Various

0200	3141 017 79961	FRONT ASSY DVP320/69
0207	3141 011 60761	DOOR SPRING DVP320
0209	3141 011 21971	GASKET-PLATE
0211	3141 017 51091	BUTTON POWER PPT DVP320/69
0213	3141 017 79981	BOTTOM CABINET ASSY DVP320/69
0216	3140 111 21841	SPEAKER CLIP
0217	3141 011 21941	SHIELD FRAME DVP320
0219	3141 011 21951	SHIELD TOP DVP320
0221	3141 013 20531	WASHER LOADER DVP320
1001	3141 018 04371	DVD TRAVERSE KHM-280AHA (SONY)
1002	3141 018 04382	PBAS MONO BOARD DVP320
1003	3141 018 04392	PBAS FRONT DVP320
1005	3141 018 04931	PBAS PUS GAP MITSUMI WW AU/NZ
1006	8240 008 70121	CD DOOR SWITCH
5001	2422 070 98148	MAINSCORD AUS 1M9 BK B
8001	3141 010 21882	FFC 26P/150/26P 0.5MM FOLDED
8002	3141 010 21911	CWAS 8P/170/8P EH 2.5MM
8003	3141 010 21921	CWAS 6P/225/6P PH 2.0MM
8004	3141 010 21951	CWAS 2POP/50/2PEH
8005	3141 010 21932	CWAS 4P/175/4P EH 2.5MM

FRONT CABINET ASSY DVP320/75

0010	3141 017 79991	TOP CABINET PPT DVP320/69
0020	3141 017 50561	BUTTON TREE PPT DVP320
0040	3141 017 79971	DOOR ASSY DVP320/69
0050	4822 529 10322	DAMPER ASSY /78
0050	3139 118 73621	DAMPER ASSY /93 /69 /75
0070	3141 013 20581	PC SHEET COVER L DVP320
0080	3141 013 20591	PC SHEET COVER R DVP320
0090	3141 013 10041	FELT 7

BOTTOM CABINET ASSY DVP320/75

0020	3141 013 20521	CUSHION FOOT DVP320

MONO BOARD DVP320/75

1609	3141 010 30541	CON FPC BOTTOM SM 0.5MM 26P
1620	2422 128 02604	SPPB62010A
5701	3141 018 80600	CRYSTAL QUARTZ 27M
7601	9322 134 45668	LD1117DT33
7603	9322 187 63668	IC SM BA5954FP(RHM0) R
7611	3141 017 41163	FLASH ASSY GAP-PH
7614	9322 043 00668	MC78L05ACD
7620	9322 133 00685	2SB1132
7621	9322 133 00685	2SB1132
7630	3141 018 51690	TRA SM 2SK3018
7631	3141 018 51690	TRA SM 2SK3018
7650	9322 199 91685	IC SM NCP302HSN30 (ONSE) R

FRONT BOARD DVP320/75

1401	2422 128 02496	SWITCH, PUSH BUTTON
1402	2422 128 02496	SWITCH, PUSH BUTTON
1407	3141 018 40231	SWI PUSH 2P PSA-22D02LO LUPFUNG
6401	3141 018 51881	LED RED DIF LTL-4221N
6402	3141 018 51711	LED ORANGE
6403	3141 010 50391	IR TSOP4836-LL1 (VISHAY)
8401	3141 010 21941	CWAS 2P/70/2P EH 2.5MM

10.3 Spare Parts List DVP320/78

ACCESSORIES DVP320/78

0381	2422 076 00304	CABLE CINCH/CINCH 1M5 YE/RD/WH
0384	3141 017 90351	REMOTE CONTROL DVP320-RC1

TECHNICAL SET DVP320/78

Various

0200	3141 017 79961	FRONT ASSY DVP320/69
0207	3141 011 60761	DOOR SPRING DVP320
0209	3141 011 21971	GASKET-PLATE
0211	3141 017 51091	BUTTON POWER PPT DVP320/69
0213	3141 017 51141	BOTTOM CABINET ASSY DVP320/78
0216	3140 111 21841	SPEAKER CLIP
0217	3141 011 21941	SHIELD FRAME DVP320
0219	3141 011 21951	SHIELD TOP DVP320
0221	3141 013 20531	WASHER LOADER DVP320
1001	3141 018 04371	DVD TRAVERSE KHM-280AHA (SONY)
1002	3141 018 04382	PBAS MONO BOARD DVP320
1003	3141 018 04392	PBAS FRONT DVP320
1005	3141 018 04931	PBAS PUS GAP MITSUMI WW AU/NZ
1006	4822 276 13963	CD DOOR SWITCH
5001	3141 018 71310	MAINS CORD 1.60M
8001	3141 010 21882	FFC 26P/150/26P 0.5MM FOLDED
8002	3141 010 21911	CWAS 8P/170/8P EH 2.5MM
8003	3141 010 21921	CWAS 6P/225/6P PH 2.0MM
8004	3141 010 21951	CWAS 2POP/50/2PEH
8005	3141 010 21932	CWAS 4P/175/4P EH 2.5MM

FRONT CABINET ASSY DVP320/78

0010	3141 017 79991	TOP CABINET PPT DVP320/69
0020	3141 017 50561	BUTTON TREE PPT DVP320
0040	3141 017 79971	DOOR ASSY DVP320/69
0050	4822 529 10322	DAMPER ASSY /78
0050	3139 118 73621	DAMPER ASSY /93 /69 /75
0070	3141 013 20581	PC SHEET COVER L DVP320
0080	3141 013 20591	PC SHEET COVER R DVP320
0090	3141 013 10041	FELT 7

BOTTOM CABINET ASSY DVP320/78

0020	3141 013 20521	CUSHION FOOT DVP320

MONO BOARD DVP320/78

1609	3141 010 30541	CON FPC BOTTOM SM 0.5MM 26P
1620	4822 276 13503	SPPB62010A
5701	3141 018 80600	CRYSTAL QUARTZ 27M
7601	4822 209 17398	LD1117DT33
7603	9322 187 63668	IC SM BA5954FP(RHM0) R
7611	3141 017 41163	FLASH ASSY GAP-PH
7614	4822 209 33411	MC78L05ACD
7620	4822 130 11565	2SB1132
7621	4822 130 11565	2SB1132
7630	3141 018 51690	TRA SM 2SK3018
7631	3141 018 51690	TRA SM 2SK3018
7650	9322 199 91685	IC SM NCP302HSN30 (ONSE) R

FRONT BOARD DVP320/78

1401	2422 128 02496	SWITCH, PUSH BUTTON
1402	2422 128 02496	SWITCH, PUSH BUTTON
1407	3141 018 40231	SWI PUSH 2P PSA-22D02LO LUPFUNG
6401	3141 018 51881	LED RED DIF LTL-4221N
6402	3141 018 51711	LED ORANGE
6403	3141 010 50391	IR TSOP4836-LL1 (VISHAY)
8401	3141 010 21941	CWAS 2P/70/2P EH 2.5MM

10.4 Spare Parts List DVP320/93

ACCESSORIES DVP320/93

0381	2422 076 00304	CABLE CINCH/CINCH 1M5YE/RD/WH
0384	3141 017 90351	REMOTE CONTROL DVP320-RC1

TECHNICAL SET DVP320/93

Various

0200	3141 017 79961	FRONT ASSY DVP320/69
0207	3141 011 60761	DOOR SPRING DVP320
0209	3141 011 21971	GASKET-PLATE
0211	3141 017 51091	BUTTON POWER PPT DVP320/69
0216	3140 111 21841	SPEAKER CLIP
0217	3141 011 21941	SHIELD FRAME DVP320
0219	3141 011 21951	SHIELD TOP DVP320
0221	3141 013 20531	WASHER LOADER DVP320
1001	3141 018 04371	DVD TRAVERSE KHM-280AHA (SONY)
1002	3141 018 04382	PBAS MONO BOARD DVP320
1003	3141 018 05051	PBAS FRONT DVP320
1005	3141 018 05041	PBAS PUS GAP MITSUMI WW CH
1006	4822 276 13963	CD DOOR SWITCH
5001	3141 018 71411	MAINS CORD
8001	3141 010 21882	FFC 26P/150/26P 0.5MM FOLDED
8002	3141 010 21911	CWAS 8P/170/8P EH 2.5MM
8003	3141 010 21921	CWAS 6P/225/6P PH 2.0MM
8004	3141 010 21951	CWAS 2POP/50/2PEH
8005	3141 010 21932	CWAS 4P/175/4P EH 2.5MM

FRONT CABINET ASSY DVP320/93

0010	3141 017 79991	TOP CABINET PPT DVP320/69
0020	3141 017 50561	BUTTON TREE PPT DVP320
0040	3141 017 79971	DOOR ASSY DVP320/69
0050	4822 529 10322	DAMPER ASSY /78
0050	3139 118 73621	DAMPER ASSY /93 /69 /75
0070	3141 013 20581	PC SHEET COVER L DVP320
0080	3141 013 20591	PC SHEET COVER R DVP320
0090	3141 013 10041	FELT 7

BOTTOM CABINET ASSY DVP320/93

0020	3141 013 20521	CUSHION FOOT DVP320

MONO BOARD DVP320/93

1609	3141 010 30541	CON FPC BOTTOM SM 0.5MM 26P
1620	2422 128 02604	SPPB62010A
5701	3141 018 80600	CRYSTAL QUARTZ 27M
7601	9322 134 45668	LD1117DT33
7603	9322 187 63668	IC SM BA5954FP(RHM0) R
7611	3141 017 41163	FLASH ASSY GAP-PH
7614	9322 043 00668	MC78L05ACD
7620	9322 133 00685	2SB1132
7621	9322 133 00685	2SB1132
7630	3141 018 51690	TRA SM 2SK3018
7631	3141 018 51690	TRA SM 2SK3018
7650	9322 199 91685	IC SM NCP302HSN30 (ONSE) R

FRONT BOARD DVP320/93

1401	2422 128 02496	SWITCH, PUSH BUTTON
1402	2422 128 02496	SWITCH, PUSH BUTTON
1407	3141 018 40231	SWI PUSH 2P PSA-22D02LO LUPFUNG
6401	3141 018 51881	LED RED DIF LTL-4221N
6402	3141 018 51711	LED ORANGE
6403	3141 010 50391	IR TSOP4836-LL1 (VISHAY)
8401	3141 010 21941	CWAS 2P/70/2P EH 2.5MM

10.5 Spare Parts List DVP320/00

ACCESSORIES DVP320/00

0381	2422 076 00304	CABLE CINCH/CINCH 1M5 YE/RD/WH
0382	3141 010 30621	CON ASSY SCART/3CINCH AV
0384	3141 017 90351	REMOTE CONTROL DVP320-RC1
0387	3141 015 26361	IFU DVP320/00
0394	3141 019 10151	CD IFU DVP320

TECHNICAL SET DVP320/00

Various

0200	3141 017 79961	FRONT ASSY DVP320/69
0207	3141 011 60761	DOOR SPRING DVP320
0209	3141 011 21971	GASKET-PLATE
0211	3141 017 51091	BUTTON POWER PPT DVP320/69
0213	3141 017 79981	BOTTOM CABINET ASSY DVP320/69
0216	3140 111 21841	SPEAKER CLIP
0217	3141 011 21941	SHIELD FRAME DVP320
0219	3141 011 21951	SHIELD TOP DVP320
0221	3141 013 20531	WASHER LOADER DVP320
1001	3141 018 04371	DVD TRAVERSE KHM-280AHA (SONY)
1002	3141 018 05091	PBAS MONO BOARD DVP320/00
1003	3141 018 04392	PBAS FRONT DVP320
1005	3141 018 04931	PBAS PUS GAP MITSUMI AU/NZ
1006	4822 276 13963	CD DOOR SWITCH
5001	3141 018 71310	MAINS CORD 1.60M
8001	3141 010 21882	FFC 26P/150/26P 0.5MM FOLDED
8002	3141 010 21911	CWAS 8P/170/8P EH 2.5MM
8003	3141 010 21921	CWAS 6P/225/6P PH 2.0MM
8004	3141 010 21951	CWAS 2POP/50/2PEH
8005	3141 010 21932	CWAS 4P/175/4P EH 2.5MM

FRONT CABINET ASSY DVP320/00

0010	3141 017 79991	TOP CABINET PPT DVP320/69
0020	3141 017 50561	BUTTON TREE PPT DVP320
0040	3141 017 79971	DOOR ASSY DVP320/69
0050	4822 529 10322	DAMPER ASSY /78
0050	3139 118 73621	DAMPER ASSY /93 /69 /75
0070	3141 013 20581	PC SHEET COVER L DVP320
0080	3141 013 20591	PC SHEET COVER R DVP320
0090	3141 013 10041	FELT 7

BOTTOM CABINET ASSY DVP320/00

0020	3141 013 20521	CUSHION FOOT DVP320

MONO BOARD DVP320/00

1609	3141 010 30541	CON FPC BOTTOM SM 0.5MM 26P
1620	4822 276 13503	SPPB62010A
5701	3141 018 80600	CRYSTAL QUARTZ 27M FUNDAMENTAL
7601	4822 209 17398	LD1117DT33
7603	9322 187 63668	IC SM BA5954FP(RHM0) R
7611	3141 017 41381	FLASH ASSY GAP-PH-OLD-UI
7614	4822 209 33411	MC78L05ACD
7620	4822 130 11565	2SB1132
7621	4822 130 11565	2SB1132
7630	3141 018 51690	TRA SM 2SK3018
7631	3141 018 51690	TRA SM 2SK3018
7650	9322 199 91685	IC SM NCP302HSN30 (ONSE) R

FRONT BOARD DVP320/00

1401	2422 128 02496	SWITCH, PUSH BUTTON
1402	2422 128 02496	SWITCH, PUSH BUTTON
1407	3141 018 40231	SWI PUSH 2P PSA-22D02LO LUPFUNG
6401	3141 018 51881	LED RED DIF LTL-4221N
6402	3141 018 51711	LED ORANGE
6403	3141 010 50391	IR TSOP4836-LL1 (VISHAY)
8401	3141 010 21941	CWAS 2P/70/2P EH 2.5MM

10.6 Spare Parts List DVP320/AK

ACCESSORIES DVP320/AK

0381	2422 076 00304	CABLE, COAXIAL
0384	3141 017 90351	REMOTE CONTROL
0387	3141 015 25461	DOC DIRECTIONS FOR USE
0388	3139 128 73010	ADAPTER, CONNECTOR

TECHNICAL SET DVP320/AK

Various

0200	3141 017 79961	FRONT PANEL, PLASTIC
0207	3141 011 60761	SPRING
0209	3141 011 21971	GASKET, PLASTIC
0211	3141 017 51091	PUSH BUTTON, PLASTIC
0213	3141 017 51381	HOUSING PART, PLASTIC
0216	3140 111 21841	CLIP, PLASTIC
0217	3141 011 21941	FRAME, STEEL
0219	3141 011 21951	TOP COVER, STEEL
0221	3141 013 20531	RING, STEEL
1001	3141 018 04371	MECH. UNIT, DVD PLAYER
1002	3141 018 04901	PR.CIRCUIT, DVD PLAYER
1003	3141 018 04392	PR.CIRCUIT, DVD PLAYER
1005	3122 429 00201	PR.CIRCUIT, DVD PLAYER
1006	4822 276 13963	SWITCH, PUSH BUTTON
5001	3141 018 71310	CORD, MAINS
8001	3141 010 21882	FLEXIBLE FOIL CONNECTION
8002	3141 010 21911	CABLE, CONNECTING
8003	3141 010 21921	CABLE, CONNECTING
8004	3141 010 21951	CABLE, CONNECTING
8005	3141 010 21932	CABLE, CONNECTING

FRONT CABINET ASSY DVP320/AK

0010	3141 017 79991	TOP CABINET PPT DVP320/69
0020	3141 017 50561	BUTTON TREE PPT DVP320
0040	3141 017 79971	DOOR ASSY DVP320/69
0050	4822 529 10322	DAMPER ASSY /78
0050	3139 118 73621	DAMPER ASSY /93 /69 /75
0070	3141 013 20581	PC SHEET COVER L DVP320
0080	3141 013 20591	PC SHEET COVER R DVP320
0090	3141 013 10041	FELT 7

BOTTOM CABINET ASSY DVP320/AK

0020	3141 013 20521	FOOT, PLASTIC

PBAS MONO BOARD DVP320/AK

1609	3141 010 30541	CONNECTOR, PRINTED CIRCUIT
1620	4822 276 13503	SWITCH, PUSH BUTTON
5701	3141 018 80600	CRYSTAL
7601	4822 209 17398	IC ANA VOLT./CURR. REGULATOR
7603	9322 187 63668	IC ANA OTHERS
7611	3141 017 41163	IC DIG MOS FL.EEPROM>4MB<=16MB
7614	4822 209 33411	IC ANA VOLT./CURR. REGULATOR
7620	4822 130 11565	TRANSISTOR, >=1W
7621	4822 130 11565	TRANSISTOR, >=1W
7630	3141 018 51690	TRANSISTOR, FET <1W
7631	3141 018 51690	TRANSISTOR, FET <1W
7650	9322 199 91685	IC ANA OTHERS

FRONT BOARD DVP320/AK

1401	2422 128 02496	SWITCH, PUSH BUTTON
1402	2422 128 02496	SWITCH, PUSH BUTTON
1407	3141 018 40231	SWI PUSH 2P PSA-22D02LO LUPFUNG
6401	3141 018 51881	LED RED DIF LTL-4221N
6402	3141 018 51711	LED ORANGE
6403	3141 010 50391	IR TSOP4836-LL1 (VISHAY)
8401	3141 010 21941	CWAS 2P/70/2P EH 2.5MM

10.7 Spare Parts List DVP320/BK

ACCESSORIES DVP320/BK

0381	2422 076 00304	CABLE, COAXIAL
0384	3141 017 90351	REMOTE CONTROL
0387	3141 015 25461	DOC DIRECTIONS FOR USE
0388	3139 128 73010	ADAPTER,CONNECTOR

TECHNICAL SET DVP320/BK

Various

0200	3141 017 79961	FRONT PANEL, PLASTIC
0207	3141 011 60761	SPRING
0209	3141 011 21971	GASKET, PLASTIC
0211	3141 017 51091	PUSH BUTTON, PLASTIC
0213	3141 017 51381	HOUSING PART, PLASTIC
0216	3140 111 21841	CLIP, PLASTIC
0217	3141 011 21941	FRAME, STEEL
0219	3141 011 21951	TOP COVER, STEEL
0221	3141 013 20531	RING, STEEL
1001	3141 018 04371	MECH. UNIT, DVD PLAYER
1002	3141 018 04901	PR.CIRCUIT, DVD PLAYER
1003	3141 018 04392	PR.CIRCUIT, DVD PLAYER
1005	3122 429 00201	PR.CIRCUIT, DVD PLAYER
1006	4822 276 13963	SWITCH, PUSH BUTTON
5001	3141 018 71310	CORD, MAINS
8001	3141 010 21882	FLEXIBLE FOIL CONNECTION
8002	3141 010 21911	CABLE, CONNECTING
8003	3141 010 21921	CABLE, CONNECTING
8004	3141 010 21951	CABLE, CONNECTING
8005	3141 010 21932	CABLE, CONNECTING

FRONT CABINET ASSY DVP320/BK

0010	3141 017 79991	TOP CABINET PPT DVP320/69
0020	3141 017 50561	BUTTON TREE PPT DVP320
0040	3141 017 79971	DOOR ASSY DVP320/69
0050	4822 529 10322	DAMPER ASSY /78
0050	3139 118 73621	DAMPER ASSY /93 /69 /75
0070	3141 013 20581	PC SHEET COVER L DVP320
0080	3141 013 20591	PC SHEET COVER R DVP320
0090	3141 013 10041	FELT 7

BOTTOM CABINET ASSY DVP320/BK

0020	3141 013 20521	FOOT, PLASTIC

PBAS MONO BOARD DVP320/BK

1609	3141 010 30541	CONNECTOR, PRINTED CIRCUIT
1620	4822 276 13503	SWITCH, PUSH BUTTON
5701	3141 018 80600	CRYSTAL
7601	4822 209 17398	IC ANA VOLT./CURR. REGULATOR
7603	9322 187 63668	IC ANA OTHERS
7611	3141 017 41163	IC DIG MOS FL.EEPROM>4MB<=16MB
7614	4822 209 33411	IC ANA VOLT./CURR. REGULATOR
7620	4822 130 11565	TRANSISTOR, >=1W
7621	4822 130 11565	TRANSISTOR, >=1W
7630	3141 018 51690	TRANSISTOR, FET <1W
7631	3141 018 51690	TRANSISTOR, FET <1W
7650	9322 199 91685	IC ANA OTHERS

FRONT BOARD DVP320/BK

1401	2422 128 02496	SWITCH, PUSH BUTTON
1402	2422 128 02496	SWITCH, PUSH BUTTON
1407	3141 018 40231	SWI PUSH 2P PSA-22D02LO LUPFUNG
6401	3141 018 51881	LED RED DIF LTL-4221N
6402	3141 018 51711	LED ORANGE
6403	3141 010 50391	IR TSOP4836-LL1 (VISHAY)
8401	3141 010 21941	CWAS 2P/70/2P EH 2.5MM

10.8 Spare Parts List DVP323/05

ACCESSORIES DVP323/05

0381	2422 076 00304	CABLE, COAXIAL
0382	3141 010 30621	CON ASSY SCART/3CINCH AV
0384	3141 017 90351	REMOTE CONTROL
0387	3141 015 26461	DOC DIRECTIONS FOR USE

TECHNICAL SET DVP323/05

Various

0200	3141 017 79961	FRONT PANEL, PLASTIC
0207	3141 011 60761	SPRING
0209	3141 011 21971	GASKET, PLASTIC
0211	3141 017 51091	PUSH BUTTON, PLASTIC
0213	3141 017 79981	BOTTOM COVER, PLASTIC
0216	3140 111 21841	CLIP, PLASTIC
0217	3141 011 21941	FRAME, STEEL
0219	3141 011 21951	TOP COVER, STEEL
0221	3141 013 20531	RING, STEEL
1001	3141 018 04371	MECH. UNIT, DVD PLAYER
1002	3141 018 05091	PR.CIRCUIT, DVD PLAYER
1003	3141 018 04392	PR.CIRCUIT, DVD PLAYER
1005	3141 018 04931	POWER SUPPLY UNIT
1006	4822 276 13963	SWITCH, PUSH BUTTON
5001	4822 321 10713	CORD, MAINS
8001	3141 010 21882	FLEXIBLE FOIL CONNECTION
8002	3141 010 21911	CABLE, CONNECTING
8003	3141 010 21921	CABLE, CONNECTING
8004	3141 010 21951	CABLE, CONNECTING
8005	3141 010 21932	CABLE, CONNECTING

FRONT CABINET ASSY DVP323/05

0010	3141 017 79991	TOP CABINET PPT DVP320/69
0020	3141 017 50561	BUTTON TREE PPT DVP320
0040	3141 017 79971	DOOR ASSY DVP320/69
0050	4822 529 10322	DAMPER ASSY /78
0050	3139 118 73621	DAMPER ASSY /93 /69 /75
0070	3141 013 20581	PC SHEET COVER L DVP320
0080	3141 013 20591	PC SHEET COVER R DVP320
0090	3141 013 10041	FELT 7

BOTTOM CABINET ASSY DVP323/05

0020	3141 013 20521	CUSHION FOOT DVP320

MONO BOARD DVP323/05

1609	3141 010 30541	CON FPC BOTTOM SM 0.5MM 26P
1620	4822 276 13503	SPPB62010A
5701	3141 018 80600	CRYSTAL QUARTZ 27M FUNDAMENTAL
7601	4822 209 17398	LD1117DT33
7603	9322 187 63668	IC SM BA5954FP(RHM0) R
7611	3141 017 41381	FLASH ASSY GAP-PH-OLD-UI
7614	4822 209 33411	MC78L05ACD
7620	4822 130 11565	2SB1132
7621	4822 130 11565	2SB1132
7630	3141 018 51690	TRA SM 2SK3018
7631	3141 018 51690	TRA SM 2SK3018
7650	9322 199 91685	IC SM NCP302HSN30 (ONSE) R

FRONT BOARD DVP323/05

1401	2422 128 02496	SWITCH, PUSH BUTTON
1402	2422 128 02496	SWITCH, PUSH BUTTON
1407	3141 018 40231	SWI PUSH 2P PSA-22D02LO LUPFUNG
6401	3141 018 51881	LED RED DIF LTL-4221N
6402	3141 018 51711	LED ORANGE
6403	3141 010 50391	IR TSOP4836-LL1 (VISHAY)
8401	3141 010 21941	CWAS 2P/70/2P EH 2.5MM

11 Revision List

11.1 Manual 3141 785 1376.1

1. Only for /93 version, change front PCBA board from 3141 018 04392 to 3141 018 05051. Reduce series resisters of LED to gain higher luminosity of LED in front panel in /93 version.
   - Resistor 3401 = 1 kilo-ohm;
   - Resistor 3402 = 750 ohm

Page 41, 48 update accordingly.

2. For /93 version, change PSU from 3141 018 04531 to 3141 018 05041 before mass production. Page 48 update accordingly.

3. For /75 version, change PSU from 3141 018 04531 to 3141 018 04931 before mass production. Page 48 update accordingly.

4. Deleted the ferrite ring (item 5002) except /17 stroke version.
Page 30, 48 update accordingly.

11.2 Manual 3141 785 1376.2

1. Modified cover and add spare parts list of DVP320/00 to include version /00.

2. Page 39: Correct the layout screen print from 3141 013 04382 to 3141 013 31812

3. Page 48: Change PSU of /93 from 3141 018 05041 to 3141 018 04931; PSU of /69 and /78 from 3141 018 04531 to 3141 018 04931;

11.3 Manual 3141 785 1376.3

1. Add the following information and modified the cover to include version /BK and /AK
- PCB layout of PSU (EPM) 3122 429 00201;
- Schematics of PSU (EPM) 3122 429 00201;
- Spare partslists of DVP320/AK/BK.

2. Add spare partslist of DVP323/05 to include model DVP323/05, which is same as DVP320/00 except packaging and mains cord